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Environmental Impact Report

Project Impact Report

Appendix

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EOEA #7701

Technical Data 2

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Tech. App.
Vol. 2

NEW BOSTON GARDEN DEVELOPMENT

Submitted to
Executive Office of
Environmental Affairs
Commonwealth of
Massachusetts
MEPA Unit

Boston Redevelopment
Authority
City of Boston

Submitted by
New Boston
Garden Corporation

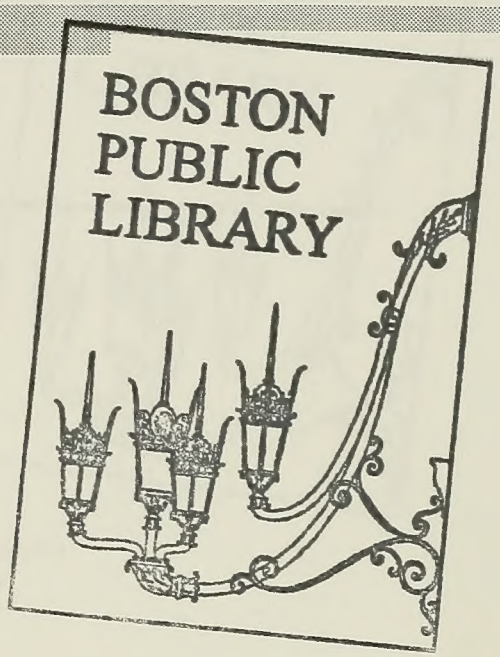
Prepared by
Vanasse Hangen Brustlin, Inc.

Environmental Impact Report

Project Impact Report

Appendix

Draft **EIR** **PIR**



EOEA #7701

Technical Data 2

NEW BOSTON GARDEN DEVELOPMENT

October 1990

Submitted to
Executive Office of
Environmental Affairs
Commonwealth of
Massachusetts
MEPA Unit

Boston Redevelopment
Authority
City of Boston

Submitted by
New Boston
Garden Corporation

Prepared by
Vanasse Hangen Brustlin, Inc.
Meredith & Grew, Inc.
Goodwin, Procter & Hoar
Thomson, French & Associates, Inc.
Ellerbe Becket, Inc.
Tech Environmental, Inc.
Goldberg-Zoino & Associates, Inc.
Rowan Williams Davies & Irwin Inc.
Flack + Kurtz Consulting Engineers
Le Messurier Consultants
Bell Associates Inc.
Peter Vanderwarker Photographs

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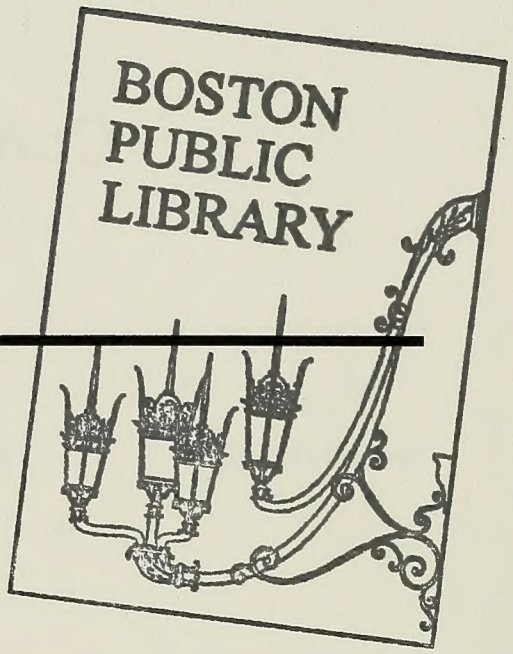

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A. CORRESPONDENCE WITH THE BRA AND DEP

Tech Environmental, Inc.
Reservoir Place
1601 Trapelo Road
Waltham, MA 02154
(617) 890-2220

September 3, 1990 Ref 478

Mr. Richard Mertens
Boston Redevelopment Authority
One City Hall Square
Room 959
Boston, Mass. 02201

Re: New Boston Garden Development EOEA #7701

Dear Mr. ~~Idleberg~~ MERTENS:

Thank you for meeting with me on August 30 regarding the New Boston Garden Development. The following is a description of the air quality modeling protocol for the project.

Microscale Analysis

Worst-case traffic volumes will be used to predict maximum 1-hour and 8-hour carbon monoxide (CO) concentrations at selected sensitive locations (receptors) for the following scenarios:

- 1990 Existing
- 1995 Partial Build
- 1995 No-Build
- 2000 Build
- 2000 No-Build

The MEPA and BRA scopes established a list of 13 intersections for analysis. As required by each scope, a microscale air quality analysis for carbon monoxide (CO) will be performed for those intersections which operate at LOS D, where the project adds ten percent or more to the traffic volumes, or LOS E and worse. Using this criteria, the following intersections were chosen for analysis, for 1990, 1995, and 2000 unless otherwise noted.

1) Leverett Circle (1990, 1995)
2) Lomasney Way/Cotting Way (1990)
3) Causeway Street/Lomasney Way/Staniford Street/Merrimac Street
4) Causeway street/Canal Street
5) Causeway Street/Accolon Way/Haverhill Street
6) Causeway Street/N. Washington Street/Commercial Street
7) City Square, Charlestown
8) Cambridge Street/Staniford Street/Temple Street
9) Cambridge Street/New Chardon Street/Bowdoin Street

Traffic counts for nine intersections will be used to scale peak 1-hour average traffic volumes to peak 8-hour average volumes. For each traffic count the ratio of the largest 8-hour average traffic volume to the largest 1-hour average traffic volume will be computed. The average of the nine ratios will be used to scale each intersection.

Detailed intersection maps for each intersection were left with you at the meeting. These maps indicate the location of each sensitive receptor (including those which you suggested) input into the CAL3QHC intersection modeling program. These maps do not show the Artery and Artery ramp links, which are included in the modeling as required by the scopes. The output from the CAL3QHC model will be added to conservative background CO levels of 5 ppm (1-hour) and 3 ppm (8-hour) and compared to the National Ambient Air Quality Standards (NAAQS) for CO. If any violations are predicted for future build cases, mitigation measures will be developed and tested.

The EPA MOBILE4 mobile source emission factor model will be used to generate composite and idle CO emission rates for the CAL3QHC model. Inputs for MOBILE4 will follow US EPA Region I guidance.

Details of the queuing, dispersion, and emission models to be used in the air quality analysis are contained in the enclosed "Microscale Modeling Protocol for Massachusetts EIRs." A roughness length of 321 cm, appropriate for central business districts, will be used.

Parking Garage Analysis

An analysis of the 1100 space underground parking garage proposed for the New Boston Garden will be performed, to predict the maximum CO concentrations at sensitive receptors near the exhaust vents outside the building. The New Boston Garden Development garage will be connected to the new MBTA 1300 space underground garage. The New Boston Garden Garage will be modeled separately since each garage will have its own ventilation system. If appropriate, the impacts from both garages will be added together. The impact from the New Boston Garden Garage exhaust on Causeway Street will be added to the predicted impact for any nearby microscale analysis receptors.

Peak 1-hour and 8-hour CO emission rates will be calculated by considering the peak 1-hour and 8-hour entering and exiting traffic volumes, the average time and distance that a vehicle will require to enter and exit the garage, and CO emission factors calculated with the MOBILE4 emissions model. The MOBILE4 model will be used with the same inputs used for the microscale MOBILE4 modeling, assuming vehicles travel at 10 mph in the garage.

The Halitsky model for wake cavity dilution will be used to calculate the concentration of CO at sensitive receptors near the exhaust vents. The results will be compared to the CO NAAQS.

I would appreciate a letter confirming that this protocol is acceptable to your office. Feel free to contact me if you need any additional information.

Sincerely,

TECH ENVIRONMENTAL, INC.

Robert J. Rossi

Robert J. Rossi, Ph.D., C.C.M.

RJR/lg/L6A

cc: Bob Kaye, VHB

Tech Environmental, Inc.
Reservoir Place
1601 Trapelo Road
Waltham, MA 02154
(617) 890-2220

September 3, 1990 Ref 478

Mr. Gary Idleberg
Department of Environmental Protection
One Winter Street
Boston, Mass. 02108

Re: New Boston Garden Development EOEA #7701

Dear Mr. Idleberg:

Thank you for meeting with me on August 30 regarding the New Boston Garden Development. The following is a description of the air quality modeling protocol for the project.

Microscale Analysis

Worst-case traffic volumes will be used to predict maximum 1-hour and 8-hour carbon monoxide (CO) concentrations at selected sensitive locations (receptors) for the following scenarios:

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- o 1995 Partial Build
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- o 2000 Build
- o 2000 No-Build

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1) Leverett Circle (1990, 1995)
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7) City Square, Charlestown
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9) Cambridge Street/New Chardon Street/Bowdoin Street

Traffic counts for nine intersections will be used to scale peak 1-hour average traffic volumes to peak 8-hour average volumes. For each traffic count the ratio of the largest 8-hour average

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Detailed intersection maps for each intersection were left with you at the meeting. These maps indicate the location of each sensitive receptor (including those which you suggested) input into the CAL3QHC intersection modeling program. These maps do not show the Artery and Artery ramp links, which are included in the modeling as required by the scopes. The output from the CAL3QHC model will be added to conservative background CO levels of 5 ppm (1-hour) and 3 ppm (8-hour) and compared to the National Ambient Air Quality Standards (NAAQS) for CO. If any violations are predicted for future build cases, mitigation measures will be developed and tested.

The EPA MOBILE4 mobile source emission factor model will be used to generate composite and idle CO emission rates for the CAL3QHC model. Inputs for MOBILE4 will follow US EPA Region I guidance.

Details of the queuing, dispersion, and emission models to be used in the air quality analysis are contained in the enclosed "Microscale Modeling Protocol for Massachusetts EIRs." A roughness length of 321 cm, appropriate for central business districts, will be used.

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Peak 1-hour and 8-hour CO emission rates will be calculated by considering the peak 1-hour and 8-hour entering and exiting traffic volumes, the average time and distance that a vehicle will require to enter and exit the garage, and CO emission factors calculated with the MOBILE4 emissions model. The MOBILE4 model will be used with the same inputs used for the microscale MOBILE4 modeling, assuming vehicles travel at 10 mph in the garage.

The Halitsky model for wake cavity dilution will be used to calculate the concentration of CO at sensitive receptors near the exhaust vents. The results will be compared to the CO NAAQS.

I would appreciate a letter confirming that this protocol is acceptable to your office. Feel free to contact me if you need any additional information.

Sincerely,

TECH ENVIRONMENTAL, INC.

Robert J. Rossi

Robert J. Rossi, Ph.D., C.C.M.

RJR/lg/L6

cc: Bob Kaye, VHB

BOSTON
REDEVELOPMENT
AUTHORITY

Raymond L. Flynn
Mayor

Stephen Coyle
Director

One City Hall Square
Boston, MA 02201
(617) 722-4300

September 11, 1990

Mr. Robert J. Rossi
Tech Environmental, Inc.
Reservoir Place
1601 Trapelo Road
Waltham, MA 02154

RE: NEW BOSTON GARDEN DEVELOPMENT EOEA #7701

Dear Mr. Rossi:

I have received and reviewed your letter of September 3, 1990, (Ref.478) respecting the proposed air quality modeling protocol for the New Boston Garden Development project and find the protocol as described to be acceptable.

Sincerely,

Richard B. Mertens
Environmental Review Officer

c: Gary Idleberg, DEP

Boston Redevelopment Authority is an Equal Opportunity/Affirmative Action Employer • Equal Housing Opportunity

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Quality Engineering
Division of Air Quality Control
One Winter Street, Boston 02108

September 13, 1990

Mr. Robert Rossi
Tech Environmental Inc.
Reservoir Place
1601 Trapelo Road
Waltham, MA 02154

Re: New Boston Garden Development
EOEA #7701

Dear Mr. Rossi:

This letter is sent to acknowledge and confirm the air quality modeling protocol for the New Boston Garden project as acceptable. Thank you for your time and efforts.

If you have any questions or changes, please call me at (617) 556-1032.

Sincerely yours,

Gary L. Idleburg

Gary Idleburg
Regional Planner

C- Richard Mertens,
B.R.A.

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B. DETAILS OF THE MICROSCALE ANALYSIS AND TRAFFIC DATA

B. DETAILS OF THE MICROSCALE ANALYSIS, TRAFFIC DATA AND MOBILE4 MODEL OUTPUT

General

The microscale analysis predicted maximum 1-hour and 8-hour CO concentrations at receptors near selected intersections in the study area. For the following five cases:

Year	Build Alternative
1990	Existing
1995	Interim-Build
1995	No-Build
2000	Full-Build
2000	No-Build

The MEPA and BRA scopes established a list of 13 intersections for analysis. As required by each scope, a microscale air quality analysis for carbon monoxide (CO) was performed for those intersections which operate at Level of Service (LOS) D, where the project adds ten percent or more to the traffic volumes, or LOS E and F. Using these criteria, the following intersections were chosen for analysis, for 1990, 1995, and 2000, unless otherwise noted.

- Leverett Circle (1990, 1995) (#1)
- Lomasney Way/Cotting Way (1990) (#3)
- Causeway Street/Lomasney Way/Staniford Street/Merrimac Street (#4)
- Causeway street/Canal Street (#5)
- Causeway Street/Accolon Way/Haverhill Street (#6)
- Causeway Street/N. Washington Street/Commercial Street (#7)
- City Square, Charlestown (#8)
- Cambridge Street/Staniford Street/Temple Street (#9)
- Cambridge Street/New Chardon Street/Bowdoin Street (#10)

Peak Traffic Volumes

The analysis utilized peak 1-hour traffic volumes for all cases. These data were made available from Vanasse Hangen Brustlin Inc. (VHB) and are presented in the Transportation section of this Technical Appendix. Peak 8-hour traffic volumes were estimated using hourly traffic count data supplied by VHB. These counts were made at nine locations in the study area. The ratio of the peak 8-hour traffic volume to the peak 1-hour traffic volume was calculated for each of the nine locations. These ratios were then averaged and applied to the peak 1-hour traffic volumes at all intersections to estimate the peak 8-hour traffic volumes. Table 1 lists the location and ratio of the peak 8-hour to 1-hour traffic volume. For each year and building alternative there was a choice between using the peak AM or PM traffic volumes. This choice was made by chosing the case with the largest total approach volume.

TABLE 1

RATIO OF MAXIMUM 8-HOUR TRAFFIC VOLUMES TO MAXIMUM 1-HOUR TRAFFIC VOLUMES FROM 1990 TRAFFIC COUNTS

Location of Count	Ratio 8-hour/1-hour
Nashua Street NB/SB	0.83
Martha Road EB (Between Rt 1 and Lomosney Way)	0.69
Causeway Street EB/WB (West of I-93 ramps)	0.90
Lomasney Way NB/SB (South of Martha Road)	0.78
Staniford Street EB/WB (South of Merimac Street)	0.82
Merrimac Street SB (East of Valenti Way)	0.85
Merrimac Street NB (East of Portland Street)	0.83
Charlestown Bridge NB	0.75
Charlestown Bridge SB	0.70
Average	0.79

Meteorological Conditions

In all cases, the EPA MOBILE4 computer program was used to calculate emissions and the CALINE-3 dispersion model was used to predict concentrations, supplemented by a set of assumptions specified by the Department of Environmental Protection (DEP) and agreed to by the Boston Redevelopment Authority (BRA).[1] These assumptions include an ambient air temperature of 30°F (December), worst-case urban meteorological conditions of Pasquill-Gifford Class D stability in conjunction with a 1.0 meters per second (m/s) wind speed, the worst-case wind direction (determined by analyzing all directions at 10 degree increments), a mixing height of 850 meters, a roughness length of 321 cm (for an urban CBD), and a vehicle spacing of 6 meters.

Background CO concentrations were chosen in a conservative manner. The 1-hour CO background level for 1990 in the project area was assumed to be no more than 5.0 ppm, while the 8-hour level was chosen as 3.0 ppm. For 1995 and 2000, background levels were assumed to be the same as the 1990 CO level.

Dispersion Modeling

The EPA Region I Mobile Source Modeling Procedures[2] describe the proper use of the CALINE-3 dispersion model in a microscale analysis of free-flow and queueing emissions from motor vehicles at an intersection. EPA has programmed these procedures in a software package called CAL3QHC[3], which was used in this analysis. A number

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1 Personal communication, Mr. Gary Idleberg, Division of Air Quality Control, Massachusetts DEP, and Mr. Richard Mertens, BRA, Boston, Mass., August 30, 1990.

2 EPA Region I, Region I Mobile Source Modeling Procedures, Boston, MA, January 1985.

3 Parsons Brinckerhoff Quade and Douglas, Inc., CAL3QHC-Modified Version of USEPA's CAL3Q Program--User Manual, January 1989.

of other state-of-the-art techniques were used to enhance CAL3QHC for special situations. For unsignalized intersections operating below capacity, queueing equations (6) and (7) in the EPA Indirect Source Guideline Model[4] were used to estimate queue length. In the case of unsignalized, over-capacity intersections, the NCHRP Report 133[5] was employed to estimate queue lengths. A summary of the highest concentrations predicted by CAL3QHC can be found in Chapter IV of this EIR, and the model output can be found later in this section of the Technical Appendix. More detailed computer output is available upon request.

Model Receptors

Multiple receptors were chosen at each intersection. Receptors were located at the entrances to buildings at each intersection corner. Receptors were set at the closest possible point to an intersection corner when there were no buildings near the corner and in future years when land use was not known. Receptors were placed at least three meters from the edge of the nearest travel lane so that they were not within the model roadway mixing cell, and a receptor height of 1.8 meters was assumed. Scaled maps of land use and receptor locations were shown in Figures 1-11 in Chapter IV.

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4 EPA, Guidelines for Air Quality Maintenance Planning and Analysis Volume 9 (Revised): Evaluating Indirect Sources, Second Printing, EPA-450/4-78-001, Research Triangle Park, NC, September 1978.

5 National Cooperative Highway Research Program, NCHRP 133, Procedures for Estimating Highway User Costs, Air Pollution, and Noise Effects, 1972.

Emissions Model

The EPA MOBILE4 computer program was used to generate all CO emission rates used in this analysis. Roadway CO emission rates used in this study are based on the MOBILE4 default national motor vehicle mix, an average December temperature of 30°F, and the 1985 Massachusetts registration distributions for seven vehicle types (see Table 2). The MOBILE4 default national cold/hot start mix (presented in Table 3) was used for determining roadway emissions during the peak 1- and 8-hour periods. Tables 4 and 5 present the composite CO emission rates for the peak 1-hour and 8-hour periods, respectively, for each year. Emission rates for the 1-hour average case are based on observed traffic speeds for the existing case. For future years the same speeds were assumed to apply unless information was available which indicated this was not an appropriate assumption. Vehicle speeds for the 8-hour case for all years were assumed to be slightly larger than the 1-hour values. These speeds represent the free-flow condition between intersections. Excess emissions due to idling in queues were also calculated by MOBILE4 (see Table 6). The idle emission rates for CO output from the MOBILE4 model are representative of a cold/hot start mix of 0%/0%/0% and a temperature of 75°F. The idle emission rates found in Table 6 were determined by scaling the idle emission rates for CO from MOBILE4 by the ratio of the composite CO emission factors for the appropriate cold/hot start mix and a temperature of 30°F to composite CO emission factors for a cold/hot start mix of 0%/0%/0%, and a temperature of 75°F, both with vehicle speeds of 5 mph. Emission rates used in this analysis assume a Statewide Decentralized Inspection and Maintenance Program starting in 1983, with a 13-percent stringency factor and an eighty-five percent compliance rate. The complete MOBILE4 output is found later in this Appendix.

Intersection Descriptions

There are three unsignalized intersections for the existing case and two unsignalized intersections for the future cases. Table 7 contains the calculated lane capacity for each queued movement at these intersections (calculation worksheets are found later in this Appendix). Specific information for each intersection is given in Tables 8 to 18. The signal timing for existing conditions was determined by field measurements. For future years, the signal timing was obtained from VHB and can be found in the Transportation Technical Appendix.

TABLE 2

1985 MASSACHUSETTS VEHICLE AGE DISTRIBUTIONS
(percent)

Age (Years)	LDGV, LDDV	LDGT1, LDGT2, LDDT	HDGV, HDDV
1	7.07	6.3	4.2
2	10.13	6.9	7.2
3	8.51	5.8	5.4
4	7.74	5.9	5.3
5	7.96	12.6	8.4
6	8.36	9.8	10.0
7	8.40	8.8	8.2
8	7.88	6.5	6.2
9	6.65	4.6	4.8
10	6.00	6.6	6.4
11	6.00	5.7	6.4
12	5.00	4.6	7.8
13	3.00	3.4	3.8
14	2.00	2.7	3.2
15	1.50	2.2	3.0
16	1.10	1.8	2.4
17	0.90	1.7	2.1
18	0.70	1.6	1.9
19	0.60	1.4	1.8
20+	0.50	1.1	1.5
Total	100.00	100.00	100.00

Source: Massachusetts Department of Environmental Protection

TABLE 3

COLD/HOT START MIX FOR MOTOR VEHICLE EMISSIONS

	1-Hour	8-Hour
Cold start	50.0%	20.6%
Hot start	10.0%	27.3%
Hot stabilized	40.0%	52.1%
Total	100.0%	100.0%

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TABLE 4

MOBILE4 COMPOSITE (FREE FLOW) CO EMISSION RATES FOR PEAK 1-HOUR PERIOD (GRAMS/MILE)

Roadway	Speed (mph)/CO Emission Rate 1990	1995	2000
#1			
Storrow Drive EB	35/28.4	35/20.6	35/17.7
Storrow Drive WB	35/28.4	35/20.6	35/17.7
Leverett Circle	20/49.9	20/36.1	20/31.1
O'Brien Highway	30/33.3	30/24.0	30/20.7
#3			
Lomasney Way NB	25/40.0	-	-
Lomasney Way SB	25/40.0	-	-
Cotting Way	25/40.0	-	-
#4			
Causeway St.	20/49.9	20/36.1	20/31.1
Lomasney Way	25/40.0	25/28.9	25/24.8
Staniford St.	25/40.0	25/28.9	25/24.8
Merrimac St.	20/49.9	20/36.1	20/31.1
#5			
Causeway St.	20/49.9	20/36.1	20/31.1
Canal St.	25/40.0	25/28.9	25/24.8
#6			
Causeway St.	20/49.9	20/36.1	20/31.1
Accolon Way	20/49.9	20/36.1	20/31.1
Haverhill St.	25/40.0	25/28.9	25/24.8
I-93 Ramp	20/49.9	20/36.1	-
#7			
Causeway St.	25/40.0	25/28.9	25/24.8
N. Washington St. South	25/40.0	25/28.9	25/24.8
N. Washington St. North	20/49.9	25/28.9	25/24.8
Commercial St.	25/40.0	25/28.9	25/24.8
Endicott St.	20/49.9	20/36.1	20/31.1

TABLE 4 (continued)

#8 (Existing - 1990)			
N. Washington St. NB	30/33.3	-	-
To Charlestown	25/40.0	-	-
Park St.	20/49.9	-	-
Main St.	15/62.8	-	-
Rutherford Ave.	25/40.0	-	-
Rutherford/N. Washington SB	25/40.0	-	-
#8 (1995/2000)			
N. Washington St.	-	25/28.9	25/24.8
Chelsea St.	-	25/28.9	25/24.8
Rutherford Ave.	-	25/28.9	25/24.8
On-Ramp	-	20/36.1	20/36.1
Off-Ramp	-	20/36.1	20/36.1
#9			
Cambridge St.	20/49.9	29/36.1	20/31.1
Staniford St.	20/49.9	20/36.1	20/31.1
Temple St.	20/49.9	20/36.1	20/31.1
#10			
Cambridge St.	20/49.9	20/36.1	20/31.1
New Chardon St.	25/40.0	25/28.9	25/24.8
Bowdoin St.	20/49.9	20/49.9	20/49.9
Artery and Ramps			
Artery-Leverett Circle Ramps to Haymarket off-Ramp	30/33.3	30/24.0	30/20.7
Ramp to/from Leverett Circle	25/40.0	25/28.9	25/24.8
Northbound Off-Ramp to Leverett Circle	25/40.0	25/28.9	-
Artery North of Depression	40/24.9	40/18.0	40/15.5

TABLE 5

MOBILE4 COMPOSITE (FREE FLOW), CO EMISSION RATES
FOR PEAK 8-HOUR PERIOD (GRAMS/MILE)

Roadway	Speed (mph)/CO Emission Rate 1990	1995	2000
#1			
Storrow Drive EB	40/14.8	40/10.8	40/9.4
Storrow Drive WB	40/14.8	40/10.8	40/9.4
Leverett Circle	25/23.8	25/17.3	25/15.0
O'Brien Highway	30/19.7	30/14.4	30/12.5
#3			
Lomasney Way NB	25/23.8	-	-
Lomasney Way SB	25/23.8	-	-
Cotting Way	25/23.8		
#4			
Causeway St.	25/23.8	25/17.3	25/15.0
Lomasney Way	25/23.8	25/17.3	25/15.0
Staniford St.	25/23.8	25/17.3	25/15.0
Merrimac St.	25/23.8	25/17.3	25/15.0
#5			
Causeway St.	25/23.8	25/17.3	25/15.0
Canal St.	25/23.8	25/17.3	25/15.0
#6			
Causeway St.	25/23.8	25/17.3	25/15.0
Accolon Way	25/23.8	25/17.3	25/15.0
Haverhill St.	25/23.8	25/17.3	25/15.0
I-93 Ramp	25/23.8	25/17.3	-
#7			
Causeway St.	30/19.7	30/14.4	30/12.5
N. Washington St. South	30/19.7	30/14.4	30/12.5
N. Washington St. North	25/23.8	30/14.4	30/12.5
Commercial St.	30/19.7	30/14.4	30/12.5
Endicott St.	25/23.8	25/17.3	25/15.0

TABLE 5 (continued)

#8 (Existing - 1990)			
N. Washington St. NB	30/19.7	-	-
To Charlestown	30/19.7	-	-
Park St.	25/23.8	-	-
Park St.	25/23.8	-	-
Main St.	20/29.7	-	-
Rutherford Ave.	30/19.7	-	-
Rutherford/N. Washington SB	30/19.7	-	-
#8 (1995/2000)			
N. Washington St.	-	30/14.4	30/12.5
Chelsea St.	-	30/14.4	30/12.5
Rutherford Ave.	-	30/14.4	30/12.5
On-Ramp	-	25/17.3	25/15.0
Off-Ramp	-	25/17.3	25/15.0
#9			
Cambridge St.	25/23.8	25/17.3	25/15.0
Staniford St.	25/23.8	25/17.3	25/15.0
Temple St.	20/29.7	20/21.6	20/18.8
#10			
Cambridge St.	25/23.8	25/17.3	25/15.0
New Chardon St.	30/19.7	30/14.4	30/12.5
Bowdoin St.	25/23.8	25/17.3	25/15.0
Artery and Ramps			
Artery-Leverett Circle Ramps to Haymarket off-Ramp	45/13.3	45/9.7	45/8.4
Ramp to/from Leverett Circle	30/19.7	30/14.4	30/12.5
Northbound Off-Ramp to Leverett Circle	30/19.7	30/14.4	-
Artery North of Depression	45/13.3	45/9.7	45/8.4

TABLE 6

MOBILE4 IDLE EMISSION RATES FOR CO
(GRAMS/MINUTE)

Time Period	1990	1995	2000
Peak 1-hour	12.83	7.39	5.47
Peak 8-hour	7.76	4.62	3.49

TABLE 7

UNSIGNALIZED INTERSECTION CAPACITIES
(PASSENGER CARS PER HOUR)

Intersection Traffic Movement	1990 Existing	1995 Build	1995 No-Build	2000 Build	2000 No-Build
#3 - Garage (and Lomosney Way)					
1-hour					
Thru	48	-	-	-	-
Right	580	-	-	-	-
8-Hour					
Thru	88	-	-	-	-
Right	635	-	-	-	-
#5 - Canal Street (and Causeway Street)					
1-hour Left/Right	70	73	79	46	53
8-hour Left/Right	124	121	121	114	125
#6 - Haverhill Street (and Causeway Street)					
1-hour Thru/Right	98	87	96	-	-
8-hour Thru/Right	150	132	141	-	-
#6 - Accolon Way (and Causeway Street)					
1-hour Left/Thru/Right	44	28	31	19	71
8-hour Left/Thru/Right	75	50	43	32	72

Source: Highway Capacity Manual, Transportation Research Board, 1985 (see later in this Appendix for calculation worksheets).

TABLE 8

INTERSECTION DATA FOR LEVERETT CIRCLE (#1)

Approach	No. of Lanes	Movements	1990 Control*
South Light			
Storrow Drive (EB)	4	Thru	A
Leverett Circle (SB)	3	Thru	B+C+D
O'Brien Highway	1	Right	Yield
North Light			
O'Brien Highway	2	Thru	C
Leverett Circle (WB)	2	Thru/Right	E

Fixed Signal

Phase	1990 Green Period (Sec)	
	South Light	North Light
A	29	
B	5	
C	23	23
D	3	
E	-	37
Total	60	60

* see LOS Analysis Sheets in Transportation Technical Appendix for 1995 signal timings.

TABLE 9

INTERSECTION DATA FOR LOMASNEY WAY/
COTTING WAY AND GARAGE (#3) (1990)

Approach	No. of Lanes	Movements	Control
Lomosney Way NB	2	Left/Right	Free Flow
Lomasney Way SB	2	Thru/Left/Right	Free Flow
Parking Garage	1-3	Thru/Right	Stop Sign

TABLE 10

INTERSECTION INFORMATION FOR CAUSEWAY STREET/
LOMASNEY WAY/STANIFORD STREET/MERRIMAC STREET (#4) (1990)

Approach	No. of Lanes	Movements	Control
Causeway Street	1	Right	A+B
Causeway Street	1	Thru/Left	B+C
Lomasney Way	1	Left	A
Lomasney Way	1	Thru/Right	A
Staniford Street	2	Thru/Right/Left	A

Fixed Signal

Phase	1990 Green Period (Sec)
A	35
B	2
C	29
All Red-Ped	24
Total	90

TABLE 11

INTERSECTION INFORMATION FOR CAUSEWAY STREET/LOMASNEY WAY/STANIFORD STREET/MERRIMAC STREET (#4) (1995 AND 2000)

Approach	No. of Lanes	Movements	Control*
Causeway Street	1	Right	
Causeway Street	1	Thru/Left	
Lomasney Way	1	Left	
Lomasney Way	1	Thru/Right	
Staniford Street	2	Thru/Right/Left	
Merrimac Street	2	Thru/Right/Left	

Fixed Signal

* See LOS Analysis Sheets in the Transportation Technical Appendix for Signal Timings.

TABLE 12

INTERSECTION DATA FOR CAUSEWAY STREET
AND CANAL STREET (#5)

Approach	No. of Lanes	Movements	Control
Causeway Street NB	2	Thru/Right	Free Flow
Causeway Street SB	2	Thru/Left	Free Flow
Canal Street	1	Thru/Right/Left	Stop Sign

TABLE 13

INTERSECTION DATA FOR CAUSEWAY STREET/
ACCOLON WAY/HAVERHILL STREET (#6)

Approach	No. of Lanes	Movements	Control
Causeay St. NB	1	Right	Free Flow
Causeway St. NB	3	Thru	Free Flow
Causeway St. SB	1	Left	Free Flow
Causeway St. SB	3	Thru	Free Flow
Accolon Way	1	Thru/Right/Left	Stop Sign
Haverhill St.	1	Thru/Right/Left	Stop Sign

TABLE 14

INTERSECTION DATA FOR CAUSEWAY STREET/N. WASHINGTON STREET/COMMERCIAL STREET (#7)

Approach	No. of Lanes	Movements	Control*
Causeway St.	3	Thru/Right/Left	A
N. Washington St. SB	1	Right	A+B
N. Washington St. SB	2	Thru	B
N. Washington St. SB	1	Left	B
N. Washington St. NB	2	Thru/Right/Left	B
Commercial St.	1	Thru/Right	C
Commercial St.	1	Thru/Left	C
Endicott St.	1	Thru/Right	B/Yield

Fixed Signal

Phase	1990 Green Period (Sec)
A	39
B	54
All Red-Ped	23
C	20
Total	136

* See LOS Analysis Sheets in Transportation Technical Appendix for 1995 and 2000 Signal Timings.

TABLE 15

INTERSECTION DATA FOR CITY SQUARE, CHARLESTOWN (#8), 1990

Approach	No. of Lanes	Movements	Control
N. Washington St.	2	Thru/Right/Left	Free Flow
Rutherford Ave.	2	Thru/Left	Free Flow
Main St.	2	Left/Right	Yield

TABLE 16

INTERSECTION DATA FOR CITY SQUARE,
CHARLESTOWN (#8), 1995 AND 2000

Approach	No. of Lanes	Movements	Control*
Rutherford Ave. (SB)	3	Thru	
Rutherford Ave. (SB)	2	Left	
Rutherford Ave. (SB)	1	Right	
Chelsea St. (WB)	4	Thru/Right/Left	
N. Washington St. (NB)	3	Thru/Right	
	2	Left	
Off-ramp (EB)	2	Thru/Left	
Off-ramp (EB)	1	Right	

* See LOS Analysis Sheets in Transportation Technical Appendix for Signal Timings.

TABLE 17

INTERSECTION DATA FOR CAMBRIDGE STREET/
STANIFORD STREET/TEMPLE STREET (#9)

Approach	No. of Lanes	Movements	Control*
Cambridge St. EB	1	Left	A+B
Cambridge St. EB	1	Thru	B+C
Cambridge St. WB	1	Right	A+B+C
Cambridge St. WB	1	Thru	C
Staniford St.	2	Right/Left	D
Temple St.	1	Thru/Right/Left	D

Semi-actuated Signal

Phase	1990 Average Green Period (Sec)
A	17
B	8
C	40
All Red	1
D	23
All Red	1
Total	90

* See LOS Analysis Sheets in Transportation Technical Appendix for 1995 and 2000 Signal Timings.

TABLE 18

INTERSECTION DATA FOR CAMBRIDGE STREET/
NEW CHARDON STREET/BOWDOIN STREET (#10)

Approach	No. of Lanes	Movements	Control*
Cambridge St. EB	3	Thru/Right	A+B
Cambridge St. WB	2	Thru/Left	B
New Chardon St. SB	2	Thru/Left	C
New Chardon St. SB	1	Right	A+C
Bowdoin St. NB	2	Right/Left	C

Fixed Signal

Phase	1990 Green Period (Sec)
A	13
B	24
All Red-Ped	24
C	28
All Red	1
Total	90

* See LOS Analysis Sheets in Transportation Technical Appendix for 1995 and 2000 Signal Timings.

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M 22 Warning: 0.137E-01 mileage with zero regis ration
M108 Warning: The ATP compliance rate of 50.0 is not equal to the I/M compliance rate of 85.0

I/M program selected:

Start year (January 1):	1983
Pre-1981 MYR stringency rate:	13%
First model year covered:	1972
Last model year covered:	2020
Waiver rate (pre-1981):	1.%
Waiver rate (1981 and newer):	1.%
Compliance Rate:	85.%
Inspection type:	Computerized decentralized
Inspection frequency	Annual
Vehicle types covered:	LDGV - Yes
	LDGT1 - Yes
	LDGT2 - Yes
	HDGV - No
1981 & later MYR test type:	Idle

Anti-tampering program selected:

Start year (January 1):	1985
First model year covered:	1980
Last model year covered:	2020
Vehicle types covered:	LDGV , LDGT1, LDGT2
Type:	Decentralized
Frequency:	Annual
Compliance Rate:	50.0%
Air pump system disablements:	No
Catalyst removals:	Yes
Fuel inlet restrictor disablements:	Yes
Tailpipe lead deposit test:	No
EGR disablement:	No
Evaporative system disablements:	No
PCV system disablements:	No
Missing gas caps:	No

MASSACHUSETTS ASTM Class: C Minimum Temp: 75. (F) Maximum Temp: 75. (F)
Base RVP: 11.5 In-use RVP: 9.0 In-use Start Yr: 1989

Total HC emission factors include evaporative HC emission factors.

User supplied veh registration distributions.

Cal. Year: 1990 I/M Program: Yes Ambient Temp: 75.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 0.0 / 0.0 / 0.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
VMT Mix:	0.727	0.122	0.082		0.013	0.015	0.004	0.027	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	29.77	51.03	58.46	54.02	220.96	3.06	3.38	36.10	70.55	37.308
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	148.70	269.34	261.73	266.28	334.29	14.08	22.71	54.05	160.73	170.155

User supplied veh registration distributions.

Cal. Year: 1995 I/M Program: Yes Ambient Temp: 75.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 0.0 / 0.0 / 0.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
VMT Mix:	0.721	0.117	0.081		0.013	0.024	0.010	0.024	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	14.34	27.61	29.88	28.54	122.99	2.75	3.05	31.84	70.48	19.189
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	74.89	164.52	166.89	165.49	279.70	11.94	21.63	52.56	160.73	93.876

User supplied veh registration distributions.

Cal. Year: 2000 I/M Program: Yes Ambient Temp: 75.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 0.0 / 0.0 / 0.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
VMT Mix:	0.709	0.110	0.081		0.013	0.038	0.016	0.023	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	10.06	18.62	19.40	18.95	83.48	2.79	3.09	29.95	70.48	13.396
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	56.01	128.36	134.06	130.77	263.75	12.44	22.23	51.81	160.73	71.794

M 22 Warning: 0.137E-01 mileage with zero registration
M108 Warning: The ATP compliance rate of 50.0 is not equal to the I/M compliance rate of 85.0
M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

I/M program selected:

Start year (January 1):	1983
Pre-1981 MYR stringency rate:	13%
First model year covered:	1972
Last model year covered:	2020
Waiver rate (pre-1981):	1.%
Waiver rate (1981 and newer):	1.%
Compliance Rate:	85.%
Inspection type:	Computerized decentralized
Inspection frequency	Annual
Vehicle types covered:	LDGV - Yes
	LDGT1 - Yes
	LDGT2 - Yes
	HDGV - No
1981 & later MYR test type:	Idle

Anti-tampering program selected:

Start year (January 1):	1985
First model year covered:	1980
Last model year covered:	2020
Vehicle types covered:	LDGV , LDGT1, LDGT2
Type:	Decentralized
Frequency:	Annual
Compliance Rate:	50.0%
Air pump system disablements:	No
Catalyst removals:	Yes
Fuel inlet restrictor disablements:	Yes
Tailpipe lead deposit test:	No
EGR disablement:	No
Evaporative system disablements:	No
PCV system disablements:	No
Missing gas caps:	No

MASSACHUSETTS ASTM Class: C Minimum Temp: 30. (F) Maximum Temp: 30. (F)
Base RVP: 11.5 In-use RVP: 9.0 In-use Start Yr: 1989

Total HC emission factors include evaporative HC emission factors.

User supplied veh registration distributions.

Cal. Year: 1990 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
VMT Mix:	0.727	0.122	0.082		0.013	0.015	0.004	0.027	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	158.66	223.46	238.03	229.32	264.29	4.67	5.11	36.10	209.06	168.731
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	148.70	269.34	261.73	266.28	334.29	14.08	22.71	54.05	160.73	170.155

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1990 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	15.0	15.0	15.0		15.0	15.0	15.0	15.0	15.0	
VMT Mix:	0.727	0.122	0.082		0.013	0.015	0.004	0.027	0.010	

Composite Emission Factors (Gm/Mile)

Exhaust CO:	59.28	82.42	83.58	82.89	123.60	2.33	2.54	17.96	65.23	62.804

Hot Stabilized Idle Emission Factors (Gm/Hr)

Idle CO:	148.70	269.34	261.73	266.28	334.29	14.08	22.71	54.05	160.73	170.155

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1990 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	20.0	20.0	20.0		20.0	20.0	20.0	20.0	20.0	
VMT Mix:	0.727	0.122	0.082		0.013	0.015	0.004	0.027	0.010	

Composite Emission Factors (Gm/Mile)

Exhaust CO:	47.40	65.73	65.48	65.63	91.79	1.76	1.92	13.57	49.03	49.934

Hot Stabilized Idle Emission Factors (Gm/Hr)

Idle CO:	148.70	269.34	261.73	266.28	334.29	14.08	22.71	54.05	160.73	170.155

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1990 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	25.0	25.0	25.0		25.0	25.0	25.0	25.0	25.0	
VMT Mix:	0.727	0.122	0.082		0.013	0.015	0.004	0.027	0.010	

Composite Emission Factors (Gm/Mile)

Exhaust CO:	38.00	53.00	52.35	52.74	72.03	1.39	1.52	10.72	39.09	40.030

Hot Stabilized Idle Emission Factors (Gm/Hr)

Idle CO:	148.70	269.34	261.73	266.28	334.29	14.08	22.71	54.05	160.73	170.155

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1990 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	30.0	30.0	30.0		30.0	30.0	30.0	30.0	30.0	
VMT Mix:	0.727	0.122	0.082		0.013	0.015	0.004	0.027	0.010	

Composite Emission Factors (Gm/Mile)

Exhaust CO:	31.61	43.94	43.39	43.72	59.71	1.15	1.26	8.87	31.91	33.257

Hot Stabilized Idle Emission Factors (Gm/Hr)

Idle CO:	148.70	269.34	261.73	266.28	334.29	14.08	22.71	54.05	160.73	170.155

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1990 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	35.0	35.0	35.0		35.0	35.0	35.0	35.0	35.0	
VMT Mix:	0.727	0.122	0.082		0.013	0.015	0.004	0.027	0.010	

Composite Emission Factors (Gm/Mile)

Exhaust CO:	27.02	37.37	36.95	37.20	52.30	0.99	1.09	7.68	26.58	28.405

Hot Stabilized Idle Emission Factors (Gm/Hr)

Idle CO:	148.70	269.34	261.73	266.28	334.29	14.08	22.71	54.05	160.73	170.155

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1990 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	40.0	40.0	40.0		40.0	40.0	40.0	40.0	40.0	
VMT Mix:	0.727	0.122	0.082		0.013	0.015	0.004	0.027	0.010	

Composite Emission Factors (Gm/Mile)

Exhaust CO:	23.64	32.75	32.25	32.55	48.40	0.90	0.98	6.96	22.88	24.895

Hot Stabilized Idle Emission Factors (Gm/Hr)

Idle CO:	148.70	269.34	261.73	266.28	334.29	14.08	22.71	54.05	160.73	170.155

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1990 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
VMT Mix:	0.727	0.122	0.082		0.013	0.015	0.004	0.027	0.010	

Composite Emission Factors (Gm/Mile)

Exhaust CO:	92.26	138.27	149.54	142.81	264.29	4.00	4.48	36.10	135.34	102.069

Hot Stabilized Idle Emission Factors (Gm/Hr)

Idle CO:	148.70	269.34	261.73	266.28	334.29	14.08	22.71	54.05	160.73	170.155

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1990 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	20.0	20.0	20.0		20.0	20.0	20.0	20.0	20.0	
VMT Mix:	0.727	0.122	0.082		0.013	0.015	0.004	0.027	0.010	

Composite Emission Factors (Gm/Mile)

Exhaust CO:	26.84	40.16	40.58	40.33	91.79	1.50	1.68	13.57	31.74	29.658

Hot Stabilized Idle Emission Factors (Gm/Hr)

Idle CO:	148.70	269.34	261.73	266.28	334.29	14.08	22.71	54.05	160.73	170.155

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1990 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	25.0	25.0	25.0		25.0	25.0	25.0	25.0	25.0	

VMT Mix:	0.727	0.122	0.082		0.013	0.015	0.004	0.027	0.010	

Composite Emission Factors (Gm/Mile)

Exhaust CO:	21.53	32.39	32.44	32.41	72.03	1.19	1.33	10.72	25.31	23.770

Hot Stabilized Idle Emission Factors (Gm/Hr)

Idle CO:	148.70	269.34	261.73	266.28	334.29	14.08	22.71	54.05	160.73	170.155

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1990 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	30.0	30.0	30.0		30.0	30.0	30.0	30.0	30.0	
VMT Mix:	0.727	0.122	0.082		0.013	0.015	0.004	0.027	0.010	

Composite Emission Factors (Gm/Mile)

Exhaust CO:	17.90	26.85	26.88	26.86	59.71	0.98	1.10	8.87	20.66	19.742

Hot Stabilized Idle Emission Factors (Gm/Hr)

Idle CO:	148.70	269.34	261.73	266.28	334.29	14.08	22.71	54.05	160.73	170.155

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1990 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	35.0	35.0	35.0		35.0	35.0	35.0	35.0	35.0	
VMT Mix:	0.727	0.122	0.082		0.013	0.015	0.004	0.027	0.010	

Composite Emission Factors (Gm/Mile)

Exhaust CO:	15.30	22.83	22.88	22.85	52.30	0.85	0.95	7.68	17.21	16.864

Hot Stabilized Idle Emission Factors (Gm/Hr)

Idle CO:	148.70	269.34	261.73	266.28	334.29	14.08	22.71	54.05	160.73	170.155

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1990 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	40.0	40.0	40.0		40.0	40.0	40.0	40.0	40.0	
VMT Mix:	0.727	0.122	0.082		0.013	0.015	0.004	0.027	0.010	

Composite Emission Factors (Gm/Mile)

Exhaust CO:	13.39	20.01	19.97	19.99	48.40	0.77	0.86	6.96	14.81	14.796

Hot Stabilized Idle Emission Factors (Gm/Hr)

Idle CO:	148.70	269.34	261.73	266.28	334.29	14.08	22.71	54.05	160.73	170.155

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1990 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh

VMT Mix:	0.727	0.122	0.082		0.013	0.015	0.004	0.027	0.010	

Composite Emission Factors (Gm/Mile)

Exhaust CO:	11.97	18.11	17.84	18.00	47.33	0.73	0.82	6.59	13.30	13.321

Hot Stabilized Idle Emission Factors (Gm/Hr)

Idle CO:	148.70	269.34	261.73	266.28	334.29	14.08	22.71	54.05	160.73	170.155

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1995 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
VMT Mix:	0.721	0.117	0.081		0.013	0.024	0.010	0.024	0.010	

Composite Emission Factors (Gm/Mile)

Exhaust CO:	84.69	122.53	124.01	123.14	154.30	4.07	4.59	31.84	208.85	90.527

Hot Stabilized Idle Emission Factors (Gm/Hr)

Idle CO:	74.89	164.52	166.89	165.49	279.70	11.94	21.63	52.56	160.73	93.876

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1995 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	15.0	15.0	15.0		15.0	15.0	15.0	15.0	15.0	
VMT Mix:	0.721	0.117	0.081		0.013	0.024	0.010	0.024	0.010	

Composite Emission Factors (Gm/Mile)

Exhaust CO:	39.87	54.58	54.59	54.59	72.16	2.03	2.29	15.84	65.17	41.628

Hot Stabilized Idle Emission Factors (Gm/Hr)

Idle CO:	74.89	164.52	166.89	165.49	279.70	11.94	21.63	52.56	160.73	93.876

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1995 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	20.0	20.0	20.0		20.0	20.0	20.0	20.0	20.0	
VMT Mix:	0.721	0.117	0.081		0.013	0.024	0.010	0.024	0.010	

Composite Emission Factors (Gm/Mile)

Exhaust CO:	34.97	46.98	46.89	46.94	53.59	1.53	1.73	11.96	48.98	36.062

Hot Stabilized Idle Emission Factors (Gm/Hr)

Idle CO:	74.89	164.52	166.89	165.49	279.70	11.94	21.63	52.56	160.73	93.876

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1995 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	25.0	25.0	25.0		25.0	25.0	25.0	25.0	25.0	
VMT Mix:	0.721	0.117	0.081		0.013	0.024	0.010	0.024	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	27.98	37.71	37.50	37.63	42.05	1.21	1.36	9.46	39.06	28.854
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	74.89	164.52	166.89	165.49	279.70	11.94	21.63	52.56	160.73	93.876

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1995 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	30.0	30.0	30.0		30.0	30.0	30.0	30.0	30.0	
VMT Mix:	0.721	0.117	0.081		0.013	0.024	0.010	0.024	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	23.32	31.37	31.20	31.30	34.86	1.00	1.13	7.82	31.88	24.022
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	74.89	164.52	166.89	165.49	279.70	11.94	21.63	52.56	160.73	93.876

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1995 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	35.0	35.0	35.0		35.0	35.0	35.0	35.0	35.0	
VMT Mix:	0.721	0.117	0.081		0.013	0.024	0.010	0.024	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	19.98	26.82	26.69	26.77	30.53	0.87	0.98	6.77	26.55	20.576
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	74.89	164.52	166.89	165.49	279.70	11.94	21.63	52.56	160.73	93.876

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1995 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	40.0	40.0	40.0		40.0	40.0	40.0	40.0	40.0	
VMT Mix:	0.721	0.117	0.081		0.013	0.024	0.010	0.024	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	17.48	23.49	23.34	23.43	28.26	0.79	0.89	6.13	22.86	18.029
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	74.89	164.52	166.89	165.49	279.70	11.94	21.63	52.56	160.73	93.876

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1995 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
VMT Mix:	0.721	0.11	0.081		0.013	0.024	0.010	0.024	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	50.46	79.67	81.86	80.56	154.30	3.52	4.03	31.84	135.21	56.641
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	74.89	164.52	166.89	165.49	279.70	11.94	21.63	52.56	160.73	93.876

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1995 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	20.0	20.0	20.0		20.0	20.0	20.0	20.0	20.0	
VMT Mix:	0.721	0.117	0.081		0.013	0.024	0.010	0.024	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	19.91	29.66	30.02	29.81	53.59	1.32	1.51	11.96	31.71	21.624
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	74.89	164.52	166.89	165.49	279.70	11.94	21.63	52.56	160.73	93.876

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1995 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	25.0	25.0	25.0		25.0	25.0	25.0	25.0	25.0	
VMT Mix:	0.721	0.117	0.081		0.013	0.024	0.010	0.024	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	15.93	23.80	24.01	23.89	42.05	1.05	1.20	9.46	25.28	17.297
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	74.89	164.52	166.89	165.49	279.70	11.94	21.63	52.56	160.73	93.876

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1995 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	30.0	30.0	30.0		30.0	30.0	30.0	30.0	30.0	
VMT Mix:	0.721	0.117	0.081		0.013	0.024	0.010	0.024	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	13.27	19.80	19.98	19.87	34.86	0.86	0.99	7.82	20.64	14.398
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	74.89	164.52	166.89	165.49	279.70	11.94	21.63	52.56	160.73	93.876

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1995 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	35.0	35.0	35.0		35.0	35.0	35.0	35.0	35.0	
VMT Mix:	0.721	0.117	0.081		0.013	0.024	0.010	0.024	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	11.37	16.93	17.09	16.99	30.53	0.75	0.86	6.77	17.19	12.336
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	74.89	164.52	166.89	165.49	279.70	11.94	21.63	52.56	160.73	93.876

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1995 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	40.0	40.0	40.0		40.0	40.0	40.0	40.0	40.0	
VMT Mix:	0.721	0.117	0.081		0.013	0.024	0.010	0.024	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	9.95	14.83	14.94	14.87	28.26	0.68	0.78	6.13	14.80	10.819
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	74.89	164.52	166.89	165.49	279.70	11.94	21.63	52.56	160.73	93.876

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 1995 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	45.0	45.0	45.0		45.0	45.0	45.0	45.0	45.0	
VMT Mix:	0.721	0.117	0.081		0.013	0.024	0.010	0.024	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	8.85	13.27	13.30	13.28	27.63	0.64	0.74	5.82	13.29	9.679
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	74.89	164.52	166.89	165.49	279.70	11.94	21.63	52.56	160.73	93.876

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions

Cal. Year: 2000 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
VMT Mix:	0.709	0.110	0.081		0.013	0.038	0.016	0.023	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	58.27	80.73	81.73	81.15	107.82	4.18	4.67	29.95	208.85	61.247
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	56.01	128.36	134.06	130.77	263.75	12.44	22.23	51.81	160.73	71.794

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	15.0	15.0	15.0		15.0	15.0	15.0	15.0	15.0	
VMT Mix:	0.709	0.110	0.081		0.013	0.038	0.016	0.023	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	33.46	43.14	43.97	43.49	50.43	2.08	2.33	14.90	65.17	33.803
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	56.01	128.36	134.06	130.77	263.75	12.44	22.23	51.81	160.73	71.794

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 2000 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	20.0	20.0	20.0		20.0	20.0	20.0	20.0	20.0	
VMT Mix:	0.709	0.110	0.081		0.013	0.038	0.016	0.023	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	31.20	39.41	40.26	39.77	37.45	1.57	1.76	11.26	48.98	31.046
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	56.01	128.36	134.06	130.77	263.75	12.44	22.23	51.81	160.73	71.794

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 2000 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	25.0	25.0	25.0		25.0	25.0	25.0	25.0	25.0	
VMT Mix:	0.709	0.110	0.081		0.013	0.038	0.016	0.023	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	24.96	31.53	32.21	31.82	29.39	1.24	1.39	8.90	39.06	24.825
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	56.01	128.36	134.06	130.77	263.75	12.44	22.23	51.81	160.73	71.794

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 2000 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	30.0	30.0	30.0		30.0	30.0	30.0	30.0	30.0	
VMT Mix:	0.709	0.110	0.081		0.013	0.038	0.016	0.023	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	20.80	26.28	26.84	26.51	24.36	1.03	1.15	7.36	31.88	20.677
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	56.01	128.36	134.06	130.77	263.75	12.44	22.23	51.81	160.73	71.794

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 2000 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	35.0	35.0	35.0		35.0	35.0	35.0	35.0	35.0	
VMT Mix:	0.709	0.110	0.081		0.013	0.038	0.016	0.023	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	17.83	22.52	23.00	22.73	21.34	0.89	0.99	6.37	26.55	17.724
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	56.01	128.36	134.06	130.77	263.75	12.44	22.23	51.81	160.73	71.794

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 2000 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 50.0 / 10.0 / 50.0 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	40.0	40.0	40.0		40.0	40.0	40.0	40.0	40.0	
VMT Mix:	0.709	0.110	0.081		0.013	0.038	0.016	0.023	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	15.60	19.71	20.13	19.89	19.75	0.81	0.90	5.77	22.86	15.524
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	56.01	128.36	134.06	130.77	263.75	12.44	22.23	51.81	160.73	71.794

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 2000 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
VMT Mix:	0.709	0.110	0.081		0.013	0.038	0.016	0.023	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	35.21	54.48	55.69	54.99	107.82	3.60	4.10	29.95	135.21	39.126
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	56.01	128.36	134.06	130.77	263.75	12.44	22.23	51.81	160.73	71.794

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 2000 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	20.0	20.0	20.0		20.0	20.0	20.0	20.0	20.0	
VMT Mix:	0.709	0.110	0.081		0.013	0.038	0.016	0.023	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	17.97	25.40	26.22	25.75	37.45	1.35	1.54	11.26	31.71	18.801
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	56.01	128.36	134.06	130.77	263.75	12.44	22.23	51.81	160.73	71.794

M 83 Comment: One or more evaporative temperatures (input daily maximum, input ambient, calculated hot soak, and/or calculated running loss) is 40F or less, or input daily minimum is 25F or less; no evaporative emission factors (hot soak, diurnal, running loss, or refueling loss) will be calculated.

User supplied veh registration distributions.

Cal. Year: 2000 I/M Program: Yes Ambient Temp: 30.0 (F) Region: Low
Anti-tam. Program: Yes Operating Mode: 20.6 / 27.3 / 20.6 Altitude: 500. Ft.

Veh. Type:	LDGV	LDGT1	LDGT2	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Veh. Speeds:	45.0	45.0	45.0		45.0	45.0	45.0	45.0	45.0	
VMT Mix:	0.709	0.110	0.081		0.013	0.038	0.016	0.023	0.010	
Composite Emission Factors (Gm/Mile)										
Exhaust CO:	7.99	11.29	11.65	11.44	19.31	0.66	0.75	5.47	13.29	8.397
Hot Stabilized Idle Emission Factors (Gm/Hr)										
Idle CO:	56.01	128.36	134.06	130.77	263.75	12.44	22.23	51.81	160.73	71.794

Hot Stabilized Idle Emission Factors (Gm/Hr)

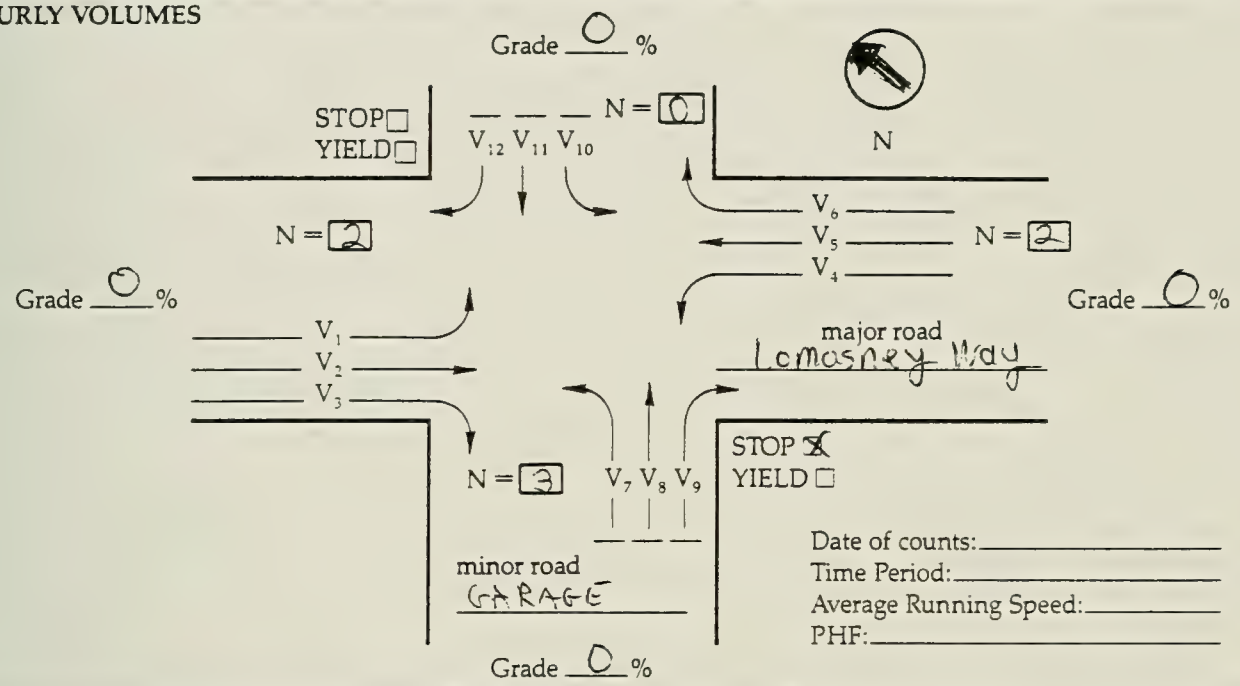
Idle	CO:	56.01	128.36	134.06	130.77	263.75	12.44	22.23	51.81	160.73	71.794

#3 WORKSHEET FOR FOUR-LEG INTERSECTIONS

Page 1

Location: Lomasney / Cotting Way / Garage Name: 1990 1-Hour AM Peak

HOURLY VOLUMES

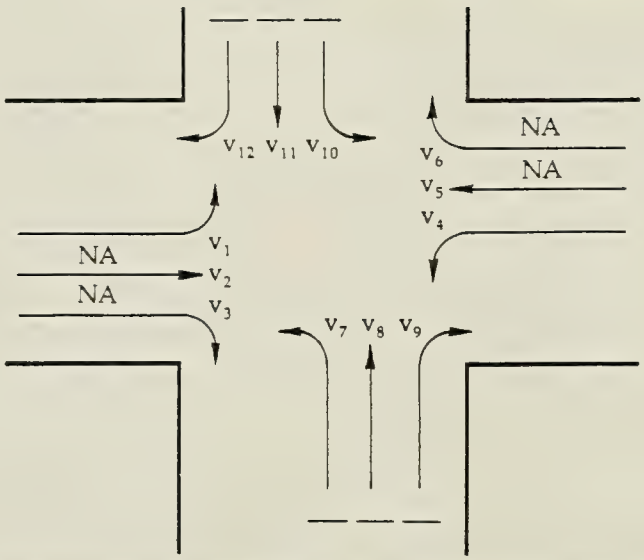


Date of counts: _____
Time Period: _____
Average Running Speed: _____
PHF: _____

VOLUME ADJUSTMENTS

Movement No.	1	2	3	4	5	6	7	8	9	10	11	12
Volume (vph)	119	725	44	13	0	1225	0	94	133	0	0	0
Vol. (pcph), see Table 10-1	131			14			0	103	152	0	0	0

VOLUMES IN PCPH



#3 AM

WORKSHEET FOR FOUR-LEG INTERSECTIONS 1990 1-HR

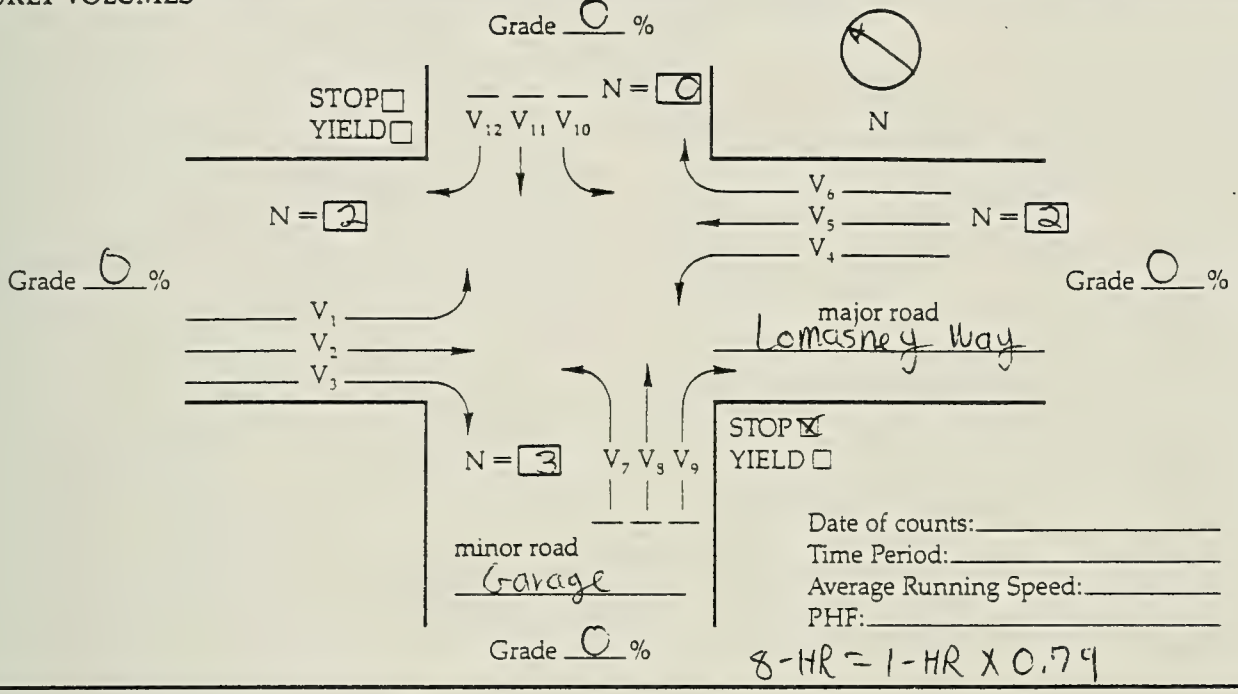
STEP 1: RT From Minor Street	⌜ V_9	⌟ V_{12}
Conflicting Flows, V_c	$1/2\,V_3 + V_2 = V_{c9}$ 22 + 725 = 747 vph	$1/2\,V_6 + V_5 = V_{c12}$ 613 + 0 = 613 vph
Critical Gap, T_c (Tab. 10-2)	5 (sec)	5 (sec)
Potential Capacity, c_p (Fig. 10-3)	$c_{p9} =$ 580 pcph	$c_{p12} =$ 625 pcph
Percent of c_p Utilized	$(v_9/c_{p9}) \times 100 =$ 26.2 %	$(v_{12}/c_{p12}) \times 100 =$ 0 %
Impedance Factor P (Fig. 10-5)	$P_9 =$ 0.8	$P_{12} =$ 1.0
Actual Capacity, c_m	$c_{m9} = c_{p9} =$ 580 pcph	$c_{m12} = c_{p12} =$ 625 pcph
STEP 2: LT From Major Street	⌜ V_4	⌟ V_1
Conflicting Flows, V_c	$V_3 + V_2 = V_{c4}$ 44 + 725 = 769 vph	$V_6 + V_5 = V_{c1}$ 1225 + 0 = 1225 vph
Critical Gap, T_c (Tab. 10-2)	5 (sec)	5 (sec)
Potential Capacity, c_p (Fig. 10-3)	$c_{p4} =$ 520 pcph	$c_{p1} =$ 290 pcph
Percent of c_p Utilized	$(v_4/c_{p4}) \times 100 =$ 2.7 %	$(v_1/c_{p1}) \times 100 =$ 45.2 %
Impedance Factor, P (Fig. 10-5)	$P_4 =$ 0.97	$P_1 =$ 0.62
Actual Capacity, c_m	$c_{m4} = c_{p4} =$ 520 pcph	$c_{m1} = c_{p1} =$ 290 pcph
STEP 3: TH From Minor Street	↑ V_8	↓ V_{11}
Conflicting Flows, V_c	$1/2V_3+V_2+V_1+V_6+V_5+V_4=V_{c8}$ 22 + 725 + 119 + 1225 + 0 + 13 = 2104 vph	$1/2V_6+V_5+V_4+V_3+V_2+V_1=V_{c11}$ 613 + 0 + 13 + 44 + 725 + 119 = 1514 vph
Critical Gap, T_c (Tab. 10-2)	6 (sec)	6 (sec)
Potential Capacity, c_p (Fig. 10-3)	$c_{p8} =$ 80 pcph	$c_{p11} =$ 130 pcph
Percent of c_p Utilized	$(v_8/c_{p8}) \times 100 =$ 1.3 %	$(v_{11}/c_{p11}) \times 100 =$ 0 %
Impedance Factor, P (Fig. 10-5)	$P_8 =$ 0.0	$P_{11} =$ 1.0
Actual Capacity, c_m	$c_{m8} = c_{p8} \times P_1 \times P_4$ 48 = 80 × .62 × .97 (pcph)	$c_{m11} = c_{p11} \times P_1 \times P_4$ 78 = 130 × 0.62 × 0.97 (pcph)
STEP 4: LT From Minor Street	⌝ V_7	⌞ V_{10}
Conflicting Flows, V_c	V_{c8} (step 3) $+ V_{11} + V_{12} = V_{c7}$ 2104 + 0 + 0 = 2104 vph	V_{c11} (step 3) $+ V_8 + V_9 = V_{c10}$ 1514 + 94 − 138 = 1746 vph
Critical Gap, T_c (Tab. 10-2)	6.5 (sec)	6.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	$c_{p7} =$ 70 pcph	$c_{p10} =$ 75 pcph
Actual Capacity, c_m	$c_{m7} = c_{p7} \times P_1 \times P_4 \times P_{11} \times P_{12}$ 42 = 70 × 0.62 × 0.97 × 1.0 × 1.0 (pcph)	$c_{m10} = c_{p10} \times P_4 \times P_1 \times P_8 \times P_{_}$ 0 = ___ × ___ × ___ × 0 × ___ (pcph)

#3 WORKSHEET FOR FOUR-LEG INTERSECTIONS

Page 1

Location: Lomasney/Cotting Way/Garage Name: 1990 8-HR AM Peak

HOURLY VOLUMES



Date of counts:

Time Period:

Average Running Speed:

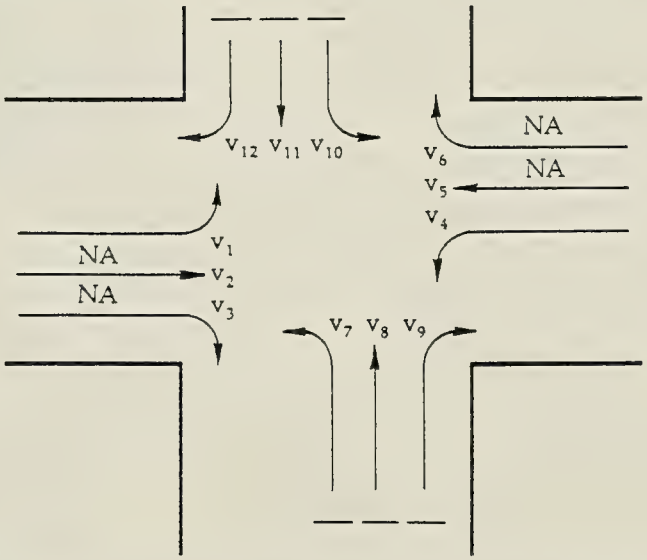
PHF:

8-HR = 1-HR X 0.79

VOLUME ADJUSTMENTS

Movement No.	1	2	3	4	5	6	7	8	9	10	11	12
Volume (vph)	94	573	35	10	0	968	0	74	109	0	0	0
Vol. (pcph), see Table 10-1	103			11			0	81	120	0	0	0

VOLUMES IN PCPH



#3 AM

WORKSHEET FOR FOUR-LEG INTERSECTIONS 1990 8-HR Page 2

STEP 1: RT From Minor Street	⌜ V_9	⌟ V_{12}
Conflicting Flows, V_c	$1/2\,V_3 + V_2 = V_{c9}$ 18 + 573 = 591 vph	$1/2\,V_6 + V_5 = V_{c12}$ 484 + 0 = 484 vph
Critical Gap, T_c (Tab. 10-2)	5 (sec)	5 (sec)
Potential Capacity, c_p (Fig. 10-3)	$c_{p9} =$ 635 pcph	$c_{p12} =$ 720 pcph
Percent of c_p Utilized	$(v_9/c_{p9}) \times 100 =$ 18.9 %	$(v_{12}/c_{p12}) \times 100 =$ 0 %
Impedance Factor, P (Fig. 10-5)	$P_9 =$ 0.87	$P_{12} =$ 1.0
Actual Capacity, c_m	$c_{m9} = c_{p9} =$ 635 pcph	$c_{m12} = c_{p12} =$ 720 pcph

STEP 2: LT From Major Street	⌜ V_4	⌟ V_1
Conflicting Flows, V_c	$V_3 + V_2 = V_{c4}$ 35 + 573 = 608 vph	$V_6 + V_5 = V_{c1}$ 968 + 0 = 968 vph
Critical Gap, T_c (Tab. 10-2)	5 (sec)	5 (sec)
Potential Capacity, c_p (Fig. 10-3)	$c_{p4} =$ 625 pcph	$c_{p1} =$ 420 pcph
Percent of c_p Utilized	$(v_4/c_{p4}) \times 100 =$ 1.8 %	$(v_1/c_{p1}) \times 100 =$ 24.5 %
Impedance Factor, P (Fig. 10-5)	$P_4 =$ 0.98	$P_1 =$ 0.82
Actual Capacity, c_m	$c_{m4} = c_{p4} =$ 625 pcph	$c_{m1} = c_{p1} =$ 420 pcph

STEP 3: TH From Minor Street	↑ V_8	↓ V_{11}
Conflicting Flows, V_c	$1/2V_3+V_2+V_1+V_6+V_5+V_4=V_{c8}$ 18 + 573 + 94 + 968 + 0 + 10 = 1663 vph	$1/2V_6+V_5+V_4+V_3+V_2+V_1=V_{c11}$ 484 + 0 + 10 + 35 + 573 + 94 = 1196 vph
Critical Gap, T_c (Tab. 10-2)	6 (sec)	6 (sec)
Potential Capacity, c_p (Fig. 10-3)	$c_{p8} =$ 110 pcph	$c_{p11} =$ 205 pcph
Percent of c_p Utilized	$(v_8/c_{p8}) \times 100 =$ 73.6 %	$(v_{11}/c_{p11}) \times 100 =$ 0 %
Impedance Factor, P (Fig. 10-5)	$P_8 =$ 0.33	$P_{11} =$ 1.0
Actual Capacity, c_m	$c_{m8} = c_{p8} \times P_1 \times P_4$ 88 = 110 × 0.82 × 0.98 (pcph)	$c_{m11} = c_{p11} \times P_1 \times P_4$ 165 = 205 × 0.82 × 0.98 (pcph)

STEP 4: LT From Minor Street	⌜ V_7	⌞ V_{10}
Conflicting Flows, V_c	V_{c8} (step 3) $+ V_{11} + V_{12} = V_{c7}$ 1663 + 0 + 0 = 1663 vph	V_{c11} (step 3) $+ V_8 + V_9 = V_{c10}$ 1196 + 94 + 109 = 1379 vph
Critical Gap, T_c (Tab. 10-2)	6.5 (sec)	6.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	$c_{p7} =$ 80 pcph	$c_{p10} =$ 130 pcph
Actual Capacity, c_m	$c_{m7} = c_{p7} \times P_1 \times P_4 \times P_{11} \times P_{12}$ 64 = 80 × 0.82 × 0.98 × 1.0 × 1.0 (pcph)	$c_{m10} = c_{p10} \times P_4 \times P_1 \times P_8 \times P_9$ 30 = 130 × .98 × .82 × 0.33 × 87 (pcph)

#5

WORKSHEET FOR ANALYSIS OF T-INTERSECTIONS

LOCATION: Causeway st/Canal st. NAME: 1990 1-HR PM

HOURLY VOLUMES

Major Street: Causeway St. N

N = 2 — V_5 — V_4 — N = 2

Grade 0 % — V_2 — V_3 —

V_7 V_9

Date of Counts: ____

Time Period: ____

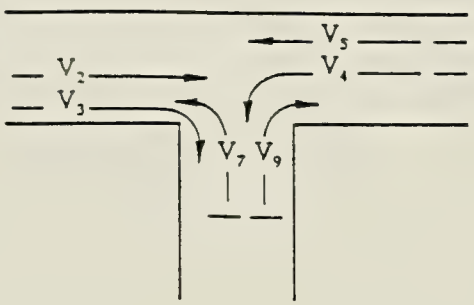
Average Running Speed: ____

☒ STOP ☐ YIELD

N = 1 Minor Street: Canal St.

PHF: ____ Grade 0 %

VOLUMES IN PCPH



VOLUME ADJUSTMENTS

Movement No.	2	3	4	5	7	9
Volume (vph)	~~913~~ 1013	106	94	875	69	106
Vol. (pcph), see Table 10-1			103		76	117

STEP 1: RT from Minor Street ← V_9

Conflicting Flow, V_c: $1/2\,V_3 + V_2 = 53 + 1013 = 1066$ vph (V_{c9})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p9} = 300$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m9} = c_{p9} = 300$ pcph

STEP 2: LT From Major Street ↑ V_4

Conflicting Flow, V_c: $V_3 + V_2 = 106 + 1013 = 1119$ vph (V_{c4})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p4} = 280$ pcph (Fig. 10-3)

Percent of c_p Utilized and Impedance Factor (Fig. 10-5): $(v_4/c_{p4}) \times 100 = 36.8$ $P_4 = 0.7$

Actual Capacity, c_m: $c_{m4} = c_{p4} = 280$ pcph

STEP 3: LT From Minor Street → V_7

Conflicting Flow, V_c: $1/2\,V_3 + V_2 + V_5 + V_4 = 53 + 1013 + 875 + 94 = 2035$ vph (V_{c7})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 7.0$ sec (Table 10-2) $c_{p7} = 45$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m7} = c_{p7} \times P_4 = 45 \times 0.7 = 32$ pcph

SHARED-LANE CAPACITY

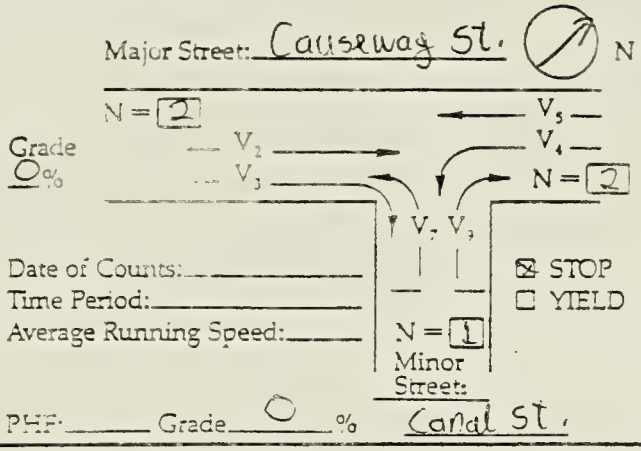
$$SH = \frac{v_7 + v_9}{(v_7/c_{m7}) + (v_9/c_{m9})} \text{ if lane is shared}$$

Movement No.	v(pcph)	c_m (pcph)	c_{SH} (pcph)	c_R	LOS
7	76	32	70		
9	117	300	70		
4					

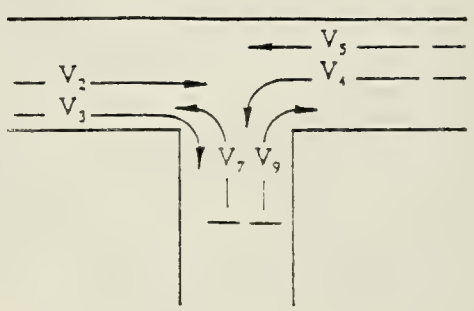
WORKSHEET FOR ANALYSIS OF T-INTERSECTIONS #5

LOCATION: Causeway St/Canal St. NAME: 1990 8-HR PM

HOURLY VOLUMES



VOLUMES IN PCPH



8-HR = 1-HR × 0.79

VOLUME ADJUSTMENTS

Movement No.	2	3	4	5	7	9
Volume (vph)	800	84	74	691	55	84
Vol. (pcph), see Table 10-1			81		60	92

STEP 1: RT from Minor Street ⌐ V_9

Conflicting Flow, V_c: $1/2\,V_3 + V_2 = 42 + 800 = 842$ vph (V_{c9})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p9} = 405$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m9} = c_{p9} = 405$ pcph

STEP 2: LT From Major Street ↑ V_4

Conflicting Flow, V_c: $V_3 + V_2 = 84 + 800 = 884$ vph (V_{c4})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p4} = 380$ pcph (Fig. 10-3)

Percent of c_p Utilized and Impedance Factor (Fig. 10-5): $(v_4/c_{p4}) \times 100 = 21.3$ $P_4 = 0.85$

Actual Capacity, c_m: $c_{m4} = c_{p4} = 380$ pcph

STEP 3: LT From Minor Street ⊃ V_7

Conflicting Flow, V_c: $1/2\,V_3 + V_2 + V_5 + V_4 = 42 + 800 + 691 + 74 = 1607$ vph (V_{c7})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 7.0$ sec (Table 10-2) $c_{p7} = 70$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m7} = c_{p7} \times P_4 = 70 \times 0.85 = 60$ pcph

SHARED-LANE CAPACITY

$$SH = \frac{v_7 + v_9}{(v_7/c_{m7}) + (v_9/c_{m9})} \text{ if lane is shared}$$

Movement No.	v(pcph)	c_m (pcph)	c_{SH} (pcph)	c_p	LOS
7	60	60	124		
9	92	405	124		

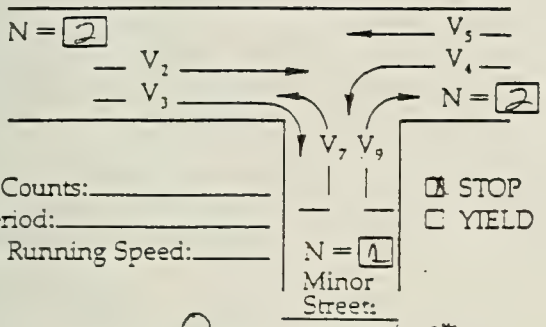
#5

#5 WORKSHEET FOR ANALYSIS OF T-INTERSECTIONS

LOCATION: Causeway st / Canal st. NAME: 1995 1-HR P-Build

HOURLY VOLUMES

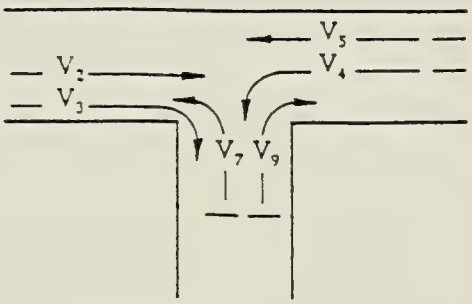
Major Street: Causeway St. N



Date of Counts: _____
Time Period: _____
Average Running Speed: _____
☒ STOP ☐ YIELD

PHF: _____ Grade 0 % Canal St.

VOLUMES IN PCPH PM



VOLUME ADJUSTMENTS

Movement No.	2	3	4	5	7	9
Volume (vph)	1056	106	94	888	69	106
Vol. (pcph), see Table 10-1			103		76	117

STEP 1: RT from Minor Street ← V_9

Conflicting Flow, V_c: $1/2\,V_3 + V_2 = 53 + 1056 = 1109$ vph (V_{c9})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p9} = 280$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m9} = c_{p9} = 280$ pcph

STEP 2: LT From Major Street ↑ V_4

Conflicting Flow, V_c: $V_3 + V_2 = 106 + 1056 = 1162$ vph (V_{c4})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p4} = 265$ pcph (Fig. 10-3)

Percent of c_p Utilized and Impedance Factor (Fig. 10-5): $(v_4/c_{p4}) \times 100 = 38\%$ $P_4 = 0.68$

Actual Capacity, c_m: $c_{m4} = c_{p4} = 265$ pcph

STEP 3: LT From Minor Street ⊃ V_7

Conflicting Flow, V_c: $1/2\,V_3 + V_2 + V_5 + V_4 = 53 + 1056 + 888 + 94 = 2091$ vph (V_{c7})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 7.0$ sec (Table 10-2) $c_{p7} = 50$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m7} = c_{p7} \times P_4 = 50 \times .68 = 34$ pcph

SHARED-LANE CAPACITY

$$SH = \frac{v_7 + v_9}{(v_7/c_{m7}) + (v_9/c_{m9})} \text{ if lane is shared}$$

Movement No.	v(pcph)	c_m (pcph)	c_{SH} (pcph)	c_R	LOS
7	76	34	93		
9	117	280	93		
4					

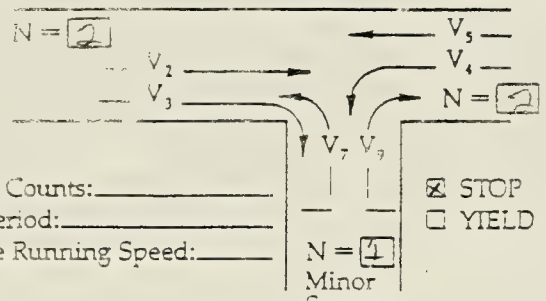
#5

WORKSHEET FOR ANALYSIS OF T-INTERSECTIONS

LOCATION: Causeway St. / Canal St. NAME: 1995 8-HR PM F-Build

HOURLY VOLUMES

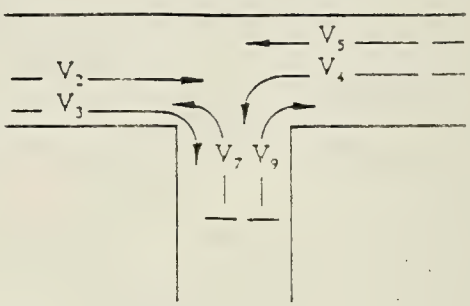
Major Street: Causeway St. N



Date of Counts: _____
Time Period: _____
Average Running Speed: _____
☒ STOP ☐ YIELD

PHF: _____ Grade 0 % Canal St.

VOLUMES IN PCPH



VOLUME ADJUSTMENTS

Movement No.	2	3	4	5	7	9
Volume (vph)	834	84	74	702	55	84
Vol. (pcph), see Table 10-1			81		60	92

STEP 1: RT from Minor Street

V_9

Conflicting Flow, V_c: $1/2\ V_3 + V_2 = \frac{42}{} + \frac{834}{} = \frac{876}{}$ vph (V_{c9})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = \frac{5.5}{}$ sec (Table 10-2) $c_{p9} = \frac{380}{}$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m9} = c_{p9} = \frac{380}{}$ pcph

STEP 2: LT From Major Street

V_4

Conflicting Flow, V_c: $V_3 + V_2 = \frac{84}{} + \frac{834}{} = \frac{918}{}$ vph (V_{c4})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = \frac{5.5}{}$ sec (Table 10-2) $c_{p4} = \frac{370}{}$ pcph (Fig. 10-3)

Percent of c_p Utilized and Impedance Factor (Fig. 10-5): $(v_4/c_{p4}) \times 100 = \frac{21.9}{}$ $P_4 = \frac{0.84}{}$

Actual Capacity, c_m: $c_{m4} = c_{p4} = $ _____ pcph

STEP 3: LT From Minor Street

V_7

Conflicting Flow, V_c: $1/2\ V_3 + V_2 + V_5 + V_4 = \frac{42}{} + \frac{834}{} + \frac{702}{} + \frac{74}{} = \frac{1652}{}$ vph (V_{c7})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = \frac{7.0}{}$ sec (Table 10-2) $c_{p7} = \frac{70}{}$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m7} = c_{p7} \times P_4 = \frac{70}{} \times \frac{.84}{} = \frac{59}{}$ pcph

SHARED-LANE CAPACITY

$$SH = \frac{v_7 + v_9}{(v_7/c_{m7}) + (v_9/c_{m9})} \text{ if lane is shared}$$

Movement No.	v(pcph)	c_m (pcph)	c_{SH} (pcph)	c_g	LOS
7	60	59	121		
9	92	380	121		
4					

#5 WORKSHEET FOR ANALYSIS OF T-INTERSECTIONS

LOCATION: Causeway St / Canal St. NAME: 1995 PM 1-HR No-Build

HOURLY VOLUMES

Major Street: Causeway St. N

N = 2

Grade 0 %

V_2, V_3, V_5, V_4, N = 2

V_7 V_9

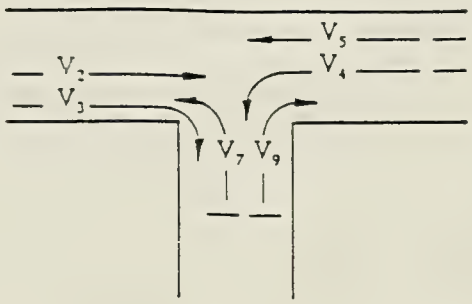
Date of Counts: _____
Time Period: _____
Average Running Speed: _____

☒ STOP ☐ YIELD

N = 1 Minor Street: Canal St.

PHF: _____ Grade 0 %

VOLUMES IN PCPH #5



VOLUME ADJUSTMENTS

Movement No.	2	3	4	5	7	9
Volume (vph)	1025	106	94	806	69	106
Vol. (pcph), see Table 10-1			103		76	117

STEP 1: RT from Minor Street ← V_9

Conflicting Flow, V_c: $1/2\ V_3 + V_2 = 53 + 1025 = 1078$ vph (V_{c9})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p9} = 290$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m9} = c_{p9} = 290$ pcph

STEP 2: LT From Major Street ↑ V_4

Conflicting Flow, V_c: $V_3 + V_2 = 106 + 1025 = 1131$ vph (V_{c4})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p4} = 295$ pcph (Fig. 10-3)

Percent of c_p Utilized and Impedance Factor (Fig. 10-5): $(v_4/c_{p4}) \times 100 = 32.5$ $P_4 = 0.70$

Actual Capacity, c_m: $c_{m4} = c_{p4} = 275$ pcph

STEP 3: LT From Minor Street → V_7

Conflicting Flow, V_c: $1/2\ V_3 + V_2 + V_5 + V_4 = 53 + 1025 + 806 + 94 = 1978$ vph (V_{c7})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 7.0$ sec (Table 10-2) $c_{p7} = 53$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m7} = c_{p7} \times P_4 = 53 \times 0.70 = 37$ pcph

SHARED-LANE CAPACITY

$$SH = \frac{v_7 + v_9}{(v_7/c_{m7}) + (v_9/c_{m9})} \text{ if lane is shared}$$

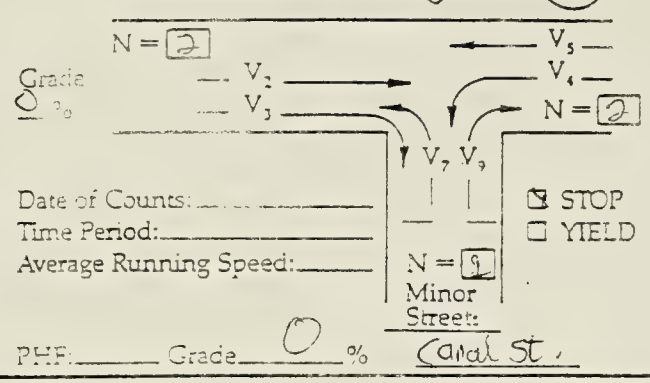
Movement No.	v(pcph)	c_m (pcph)	c_{SH} (pcph)	c_R	LOS
7	76	37	79		
9	117	290	79		
4					

#5 WORKSHEET FOR ANALYSIS OF T-INTERSECTIONS

LOCATION Causeway St. / Canal St. NAME: 1995 PM 8-hr No-Build

HOURLY VOLUMES

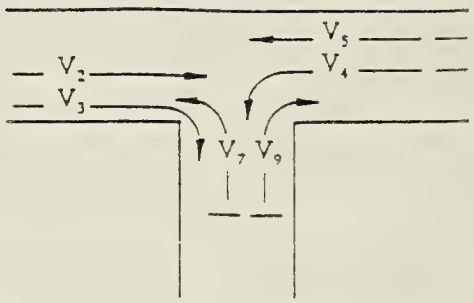
Major Street: Causeway St. N



Date of Counts: _____
Time Period: _____
Average Running Speed: _____

PHF: _____ Grade 0 % Canal St.

VOLUMES IN PCPH



VOLUME ADJUSTMENTS

Movement No.	2	3	4	5	7	9
Volume (vph)	810	84	74	637	55	84
Vol. (pcph), see Table 10-1			81		61	92

STEP 1: RT from Minor Street ← V_9

Conflicting Flow, V_c: $1/2\ V_3 + V_2 = 42 + 810 = 852$ vph (V_{c9})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p9} = 395$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m9} = c_{p9} = 395$ pcph

STEP 2: LT From Major Street ↑ V_4

Conflicting Flow, V_c: $V_3 + V_2 = 84 + 810 = 894$ vph (V_{c4})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p4} = 275$ pcph (Fig. 10-3)

Percent of c_p Utilized and Impedance Factor (Fig. 10-5): $(v_4/c_{p4}) \times 100 = 29.5$ $P_4 = 0.78$

Actual Capacity, c_m: $c_{m4} = c_{p4} = 275$ pcph

STEP 3: LT From Minor Street ↱ V_7

Conflicting Flow, V_c: $1/2\ V_3 + V_2 + V_5 + V_4 = 42 + 810 + 637 + 74 = 1563$ vph (V_{c7})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 7.0$ sec (Table 10-2) $c_{p7} = 75$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m7} = c_{p7} \times P_4 = 75 \times 0.78 = 59$ pcph

SHARED-LANE CAPACITY

$$SH = \frac{v_7 + v_9}{(v_7/c_{m7}) + (v_9/c_{m9})} \text{ if lane is shared}$$

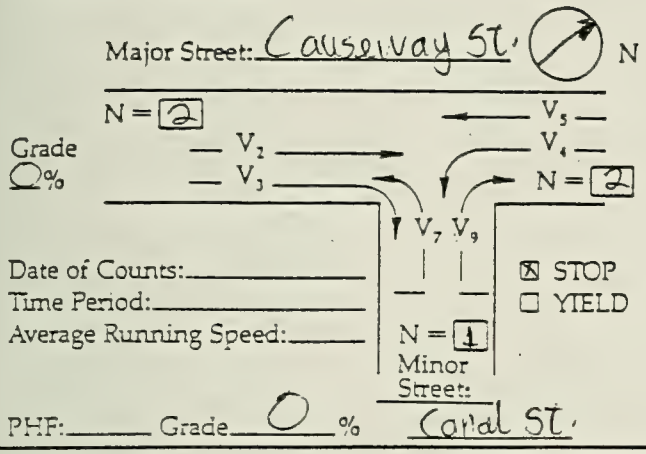
Movement No.	v(pcph)	c_m (pcph)	c_{SH} (pcph)	c_R	LOS
7	61	59	121		
9	92	395	121		
4					

#5 WORKSHEET FOR ANALYSIS OF T-INTERSECTIONS

LOCATION: Causeway St./Canal St. NAME: 2000 AM 1-HR Build

HOURLY VOLUMES

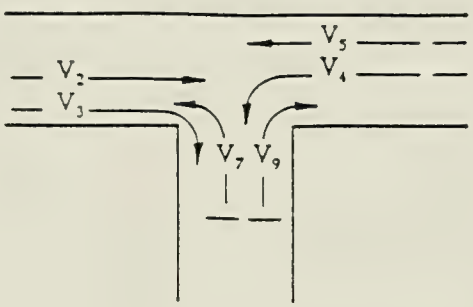
Major Street: Causeway St. N



Date of Counts: _____
Time Period: _____
Average Running Speed: _____
PHF: _____ Grade 0 %

☒ STOP
☐ YIELD

VOLUMES IN PCPH #5



VOLUME ADJUSTMENTS

Movement No.	2	3	4	5	7	9
Volume (vph)	1264	113	138	971	31	125
Vol. (pcph), see Table 10-1			152		34	138

STEP 1: RT from Minor Street ⌐ V_9

Conflicting Flow, V_c: $1/2\ V_3 + V_2 = 57 + 1264 = 1321$ vph (V_{c9})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p9} = 220$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m9} = c_{p9} = 220$ pcph

STEP 2: LT From Major Street ⌐ V_4

Conflicting Flow, V_c: $V_3 + V_2 = 113 + 1264 = 1377$ vph (V_{c4})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p4} = 195$ pcph (Fig. 10-3)

Percent of c_p Utilized and Impedance Factor (Fig. 10-5): $(v_4/c_{p4}) \times 100 = 77.9$ $P_4 = 0.275$

Actual Capacity, c_m: $c_{m4} = c_{p4} = 195$ pcph

STEP 3: LT From Minor Street ⊃ V_7

Conflicting Flow, V_c: $1/2\ V_3 + V_2 + V_5 + V_4 = 57 + 1264 + 971 + 138 = 2430$ vph (V_{c7})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 7.0$ sec (Table 10-2) $c_{p7} = 40$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m7} = c_{p7} \times P_4 = 40 \times .275 = 11$ pcph

SHARED-LANE CAPACITY

$$SH = \frac{v_7 + v_9}{(v_7/c_{m7}) + (v_9/c_{m9})} \text{ if lane is shared}$$

Movement No.	v(pcph)	c_m (pcph)	c_{SH} (pcph)	c_R	LOS
7	34	11	46		
9	138	220	46		
4					

#5

#5 WORKSHEET FOR ANALYSIS OF T-INTERSECTIONS

LOCATION: Causeway St / Canal St. NAME: 2000 AM 8-HR Build

HOURLY VOLUMES

Major Street: Causeway St. N

N = 2

Grade 0 %

V_5, V_4, V_2, V_3, N = 2

V_7, V_9

Date of Counts: _____

Time Period: _____

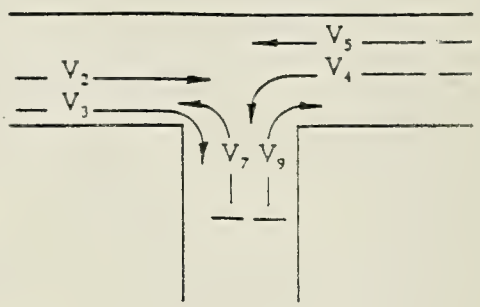
Average Running Speed: _____

☒ STOP ☐ YIELD

N = 1 Minor Street: Canal St.

PHF: _____ Grade 0 %

VOLUMES IN PCPH



VOLUME ADJUSTMENTS

Movement No.	2	3	4	5	7	9
Volume (vph)	999	89	109	767	25	99
Vol. (pcph), see Table 10-1			120		28	109

STEP 1: RT from Minor Street ← V_9

Conflicting Flow, V_c: $1/2\,V_3 + V_2 = 45 + 999 = 1044$ vph (V_{c9})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p9} = 310$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m9} = c_{p9} = 310$ pcph

STEP 2: LT From Major Street ↑ V_4

Conflicting Flow, V_c: $V_3 + V_2 = 89 + 999 = 1088$ vph (V_{c4})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p4} = 290$ pcph (Fig. 10-3)

Percent of c_p Utilized and Impedance Factor (Fig. 10-5): $(v_4/c_{p4}) \times 100 = 41.4$ $P_4 = 0.66$

Actual Capacity, c_m: $c_{m4} = c_{p4} = 290$ pcph

STEP 3: LT From Minor Street ⊃ V_7

Conflicting Flow, V_c: $1/2\,V_3 + V_2 + V_5 + V_4 = 45 + 999 + 767 + 109 = 1920$ vph (V_{c7})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 7.0$ sec (Table 10-2) $c_{p7} = 50$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m7} = c_{p7} \times P_4 = 50 \times .66 = 33$ pcph

SHARED-LANE CAPACITY

$$SH = \frac{v_7 + v_9}{(v_7/c_{m7}) + (v_9/c_{m9})}$$ if lane is shared

Movement No.	v(pcph)	c_m (pcph)	c_{SH} (pcph)	c_p	LOS
7	28	33	114		
9	109	310	114		
4					

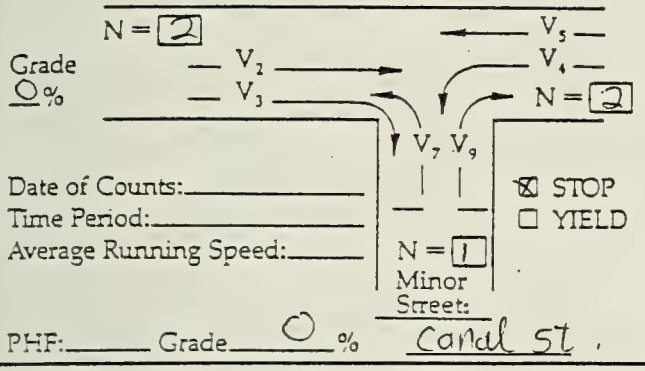
#5

#5 WORKSHEET FOR ANALYSIS OF T-INTERSECTIONS

LOCATION: Causeway St/Canal St. NAME: 2000 AM 1-HR No-Build

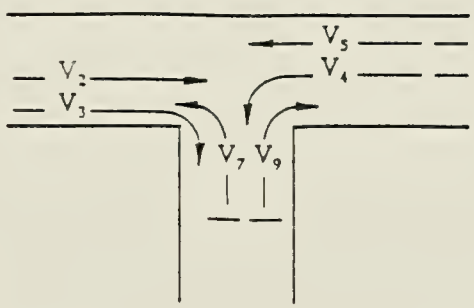
HOURLY VOLUMES

Major Street: Causeway St. N



Date of Counts:
Time Period:
Average Running Speed:
PHF: Grade 0 %

VOLUMES IN PCPH



VOLUME ADJUSTMENTS

Movement No.	2	3	4	5	7	9
Volume (vph)	1219	113	138	969	31	125
Vol. (pcph), see Table 10-1			152		34	138

STEP 1: RT from Minor Street ⌐ V_9

Conflicting Flow, V_c: $1/2\,V_3 + V_2 = 57 + 1219 = 1276$ vph (V_{c9})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p9} = 230$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m9} = c_{p9} = 230$ pcph

STEP 2: LT From Major Street ⌐ V_4

Conflicting Flow, V_c: $V_3 + V_2 = 113 + 1219 = 1332$ vph (V_{c4})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p4} = 215$ pcph (Fig. 10-3)

Percent of c_p Utilized and Impedance Factor (Fig. 10-5): $(v_4/c_{p4}) \times 100 = 70.7$ $P_4 = 0.36$

Actual Capacity, c_m: $c_{m4} = c_{p4} = 215$ pcph

STEP 3: LT From Minor Street ⌐ V_7

Conflicting Flow, V_c: $1/2\,V_3 + V_2 + V_5 + V_4 = 57 + 1219 + 969 + 138 = 2383$ vph (V_{c7})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 7.0$ sec (Table 10-2) $c_{p7} = 35$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m7} = c_{p7} \times P_4 = 35 \times .36 = 13$ pcph

SHARED-LANE CAPACITY

$$SH = \frac{v_7 + v_9}{(v_7/c_{m7}) + (v_9/c_{m9})} \text{ if lane is shared}$$

Movement No.	v(pcph)	c_m (pcph)	c_{SH} (pcph)	c_R	LOS
7	34	13	53		
9	138	230	53		
4					

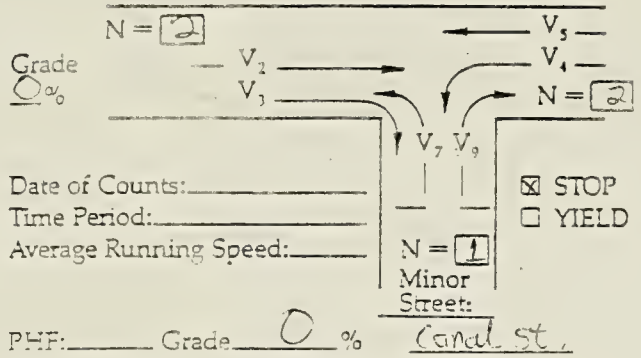
#5

#85 WORKSHEET FOR ANALYSIS OF T-INTERSECTIONS

LOCATION: Causeway St./Canal st. NAME: 2000 AM 8-HR No-Build

HOURLY VOLUMES

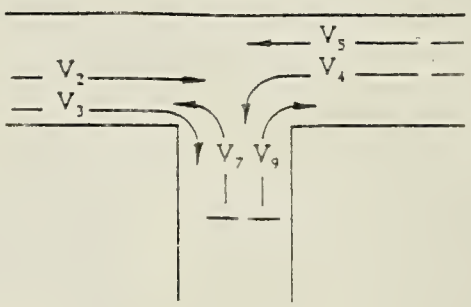
Major Street: Causeway St. N



Date of Counts:
Time Period:
Average Running Speed:
☒ STOP ☐ YIELD

PHF: Grade 0 %

VOLUMES IN PCPH



VOLUME ADJUSTMENTS

Movement No.	2	3	4	5	7	9
Volume (vph)	963	89	109	766	25	99
Vol. (pcph), see Table 10-1			120		28	109

STEP 1: RT from Minor Street — V_9

Conflicting Flow, V_c: $1/2\ V_3 + V_2 = 45 + 963 = 1008$ vph (V_{c9})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p9} = 325$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m9} = c_{p9} = 325$ pcph

STEP 2: LT From Major Street — V_4

Conflicting Flow, V_c: $V_3 + V_2 = 89 + 963 = 1052$ vph (V_{c4})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 5.5$ sec (Table 10-2) $c_{p4} = 305$ pcph (Fig. 10-3)

Percent of c_p Utilized and Impedance Factor (Fig. 10-5): $(v_4/c_{p4}) \times 100 = 39.3$ $P_4 = 0.68$

Actual Capacity, c_m: $c_{m4} = c_{p4} = 305$ pcph

STEP 3: LT From Minor Street — V_7

Conflicting Flow, V_c: $1/2\ V_3 + V_2 + V_5 + V_4 = 45 + 963 + 766 + 109 = 1853$ vph (V_{c7})

Critical Gap, T_c, and Potential Capacity, c_p: $T_c = 7.0$ sec (Table 10-2) $c_{p7} = 55$ pcph (Fig. 10-3)

Actual Capacity, c_m: $c_{m7} = c_{p7} \times P_4 = 55 \times .68 = 37$ pcph

SHARED-LANE CAPACITY

$$SH = \frac{v_7 + v_9}{(v_7/c_{m7}) + (v_9/c_{m9})} \text{ if lane is shared}$$

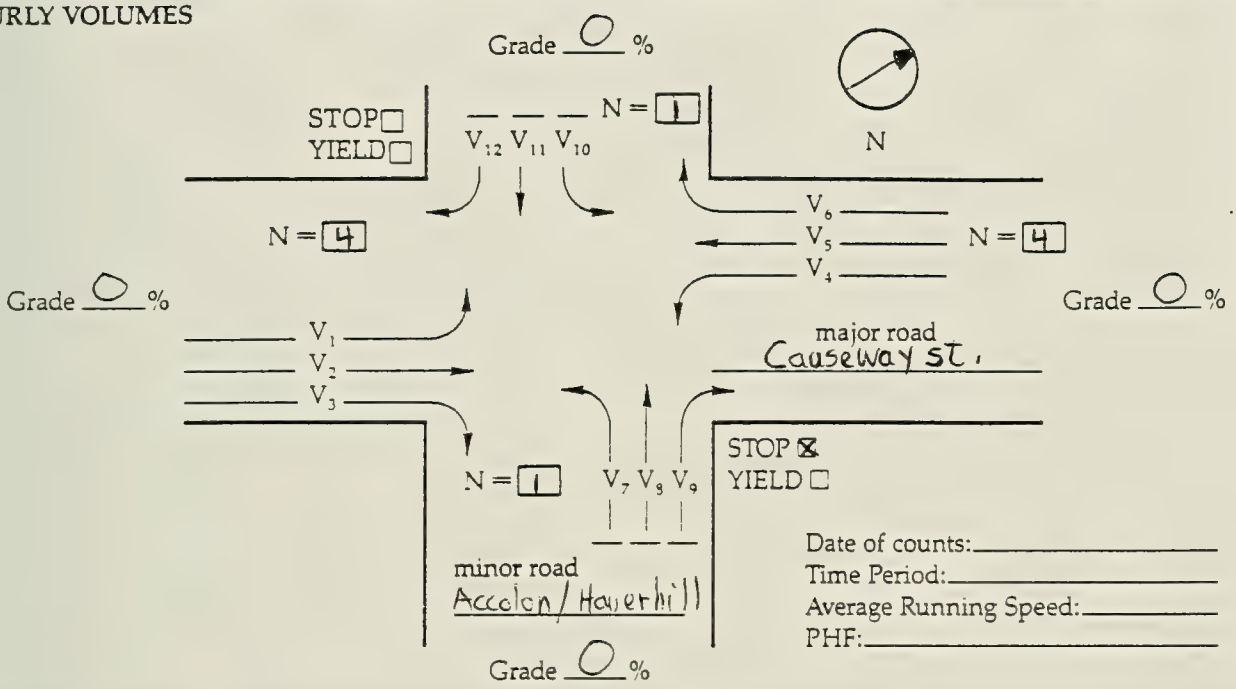
Movement No.	v(pcph)	c_m (pcph)	c_{SH} (pcph)	c_R	LOS
7	28	37	125		
9	109	325	125		
4					

#6

#6 WORKSHEET FOR FOUR-LEG INTERSECTIONS

Location: Causeway ST/Accolen Way /Haverhill Name: 1990 1-HR PM

HOURLY VOLUMES

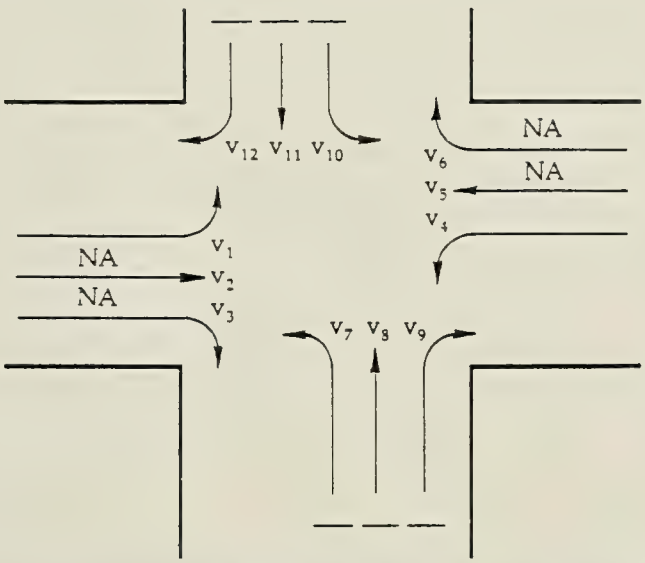


Date of counts:
Time Period:
Average Running Speed:
PHF:

VOLUME ADJUSTMENTS

Movement No.	1	2	3	4	5	6	7	8	9	10	11	12
Volume (vph)	38	994	81	31	925	38	0	19	25	56	19	44
Vol. (pcph), see Table 10-1	42			34			0	21	28	62	21	48

VOLUMES IN PCPH



#6

WORKSHEET FOR FOUR-LEG INTERSECTIONS 1990 1-HR Page 2

PM

STEP 1: RT From Minor Street	V_9	V_{12}
Conflicting Flows, V_c	$1/2\,V_3 + V_2 = V_{c9}$ 41 + 994 = 1035 vph	$1/2\,V_6 + V_5 = V_{c12}$ 19 + 925 = 944 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	$c_{p9} =$ 315 pcph	$c_{p12} =$ 350 pcph
Percent of c_p Utilized	$(v_9/c_{p9}) \times 100 =$ 8.9 %	$(v_{12}/c_{p12}) \times 100 =$ 13.7 %
Impedance Factor, P (Fig. 10-5)	$P_9 =$ 0.94	$P_{12} =$ 0.91
Actual Capacity, c_m	$c_{m9} = c_{p9} =$ 315 pcph	$c_{m12} = c_{p12} =$ 350 pcph
STEP 2: LT From Major Street	V_4	V_1
Conflicting Flows, V_c	$V_3 + V_2 = V_{c4}$ 81 + 994 = 1075 vph	$V_6 + V_5 = V_{c1}$ 38 + 925 = 963 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	$c_{p4} =$ 290 pcph	$c_{p1} =$ 340 pcph
Percent of c_p Utilized	$(v_4/c_{p4}) \times 100 =$ 11.7 %	$(v_1/c_{p1}) \times 100 =$ 12.4 %
Impedance Factor, P (Fig. 10-5)	$P_4 =$ 0.92	$P_1 =$ 0.92
Actual Capacity, c_m	$c_{m4} = c_{p4} =$ 290 pcph	$c_{m1} = c_{p1} =$ 340 pcph
STEP 3: TH From Minor Street	V_8	V_{11}
Conflicting Flows, V_c	$1/2V_3 + V_2 + V_1 + V_6 + V_5 + V_4 = V_{c8}$ 41 + 994 + 38 + 38 + 925 + 31 = 2067 vph	$1/2V_6 + V_5 + V_4 + V_3 + V_2 + V_1 = V_{c11}$ 19 + 925 + 31 + 81 + 994 + 38 = 2088 vph
Critical Gap, T_c (Tab. 10-2)	6.5 (sec)	6.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	$c_{p8} =$ 60 pcph	$c_{p11} =$ 55 pcph
Percent of c_p Utilized	$(v_8/c_{p8}) \times 100 =$ 35 %	$(v_{11}/c_{p11}) \times 100 =$ 38.2 %
Impedance Factor, P (Fig. 10-5)	$P_8 =$ 0.72	$P_{11} =$ 0.69
Actual Capacity, c_m	$c_{m8} = c_{p8} \times P_1 \times P_4$ 51 = 60 × 0.92 × 0.92 (pcph)	$c_{m11} = c_{p11} \times P_1 \times P_4$ 47 = 55 × 0.92 × 0.92 (pcph)
STEP 4: LT From Minor Street	V_7	V_{10}
Conflicting Flows, V_c	V_{c8} (step 3) + $V_{11} + V_{12} = V_{c7}$ 2067 + 19 + 44 = 2130 vph	V_{c11} (step 3) + $V_8 + V_9 = V_{c10}$ 2088 + 19 + 25 = 2132 vph
Critical Gap, T_c (Tab. 10-2)	7.0 (sec)	7.0 (sec)
Potential Capacity, c_p (Fig. 10-3)	$c_{p7} =$ 45 pcph	$c_{p10} =$ 45 pcph
Actual Capacity, c_m	$c_{m7} = c_{p7} \times P_1 \times P_4 \times P_{11} \times P_{12}$ 24 = 45 × .92 × .92 × .69 × .91 (pcph)	$c_{m10} = c_{p10} \times P_4 \times P_1 \times P_8 \times P_9$ 26 = 45 × .92 × .92 × 0.72 × 0.94 (pcph)

#6

WORKSHEET FOR FOUR-LEG INTERSECTIONS 1990

SHARED-LANE CAPACITY 1-HR PM

$$c_{SH} = \frac{v_i + v_j}{(v_i/c_{mi}) + (v_j/c_{mj})}$$ where 2 movements share a lane

$$c_{SH} = \frac{v_i + v_j + v_k}{(v_i/c_{mi}) + (v_j/c_{mj}) + (v_k/c_{mk})}$$ where 3 movements share a lane

MINOR STREET APPROACH MOVEMENTS 7, 8, 9 Haverhill

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
7	0	24			
8	21	51	98		
9	28	315	98		

MINOR STREET APPROACH MOVEMENTS 10, 11, 12 Accolon

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
10	62	26	44		
11	21	47	44		
12	48	350	44		

MAJOR STREET LEFT TURNS 1, 4

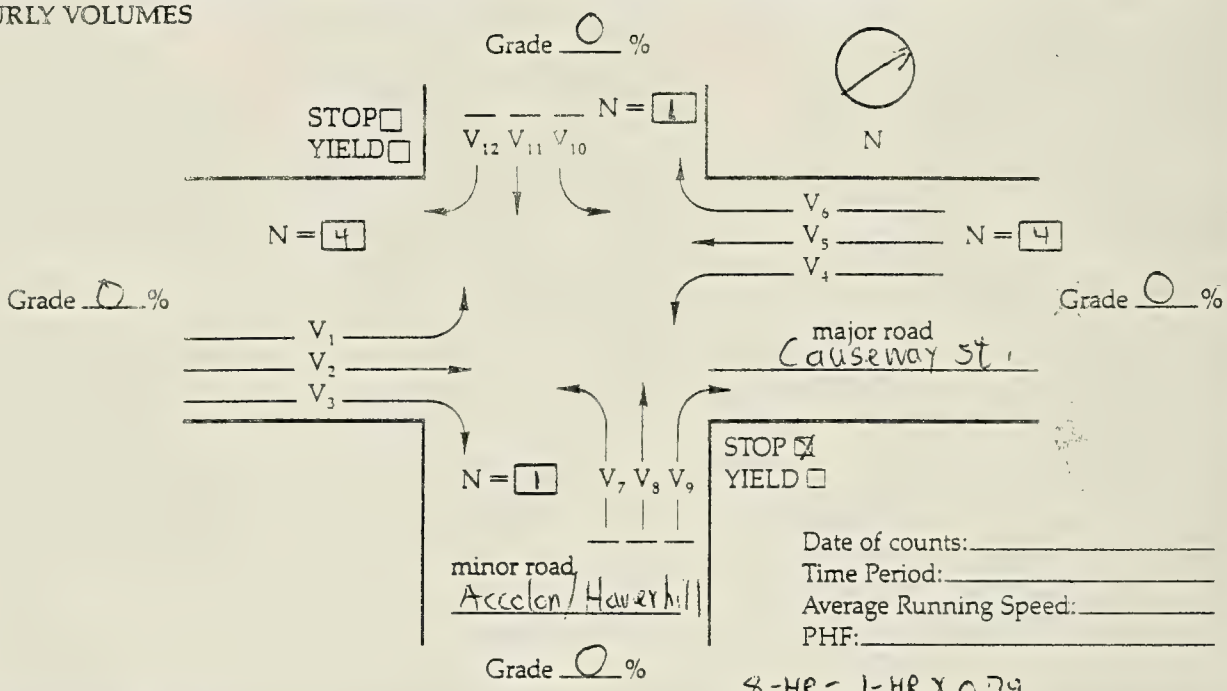
Movement	v (pcph)	c_m (pcph)	$c_R = c_m - v$	LOS
1				
4				

COMMENTS:

#6 WORKSHEET FOR FOUR-LEG INTERSECTIONS #6 Page 1

Location: Causeway / Accolon Way / Haverhill Name: 1990 8-HR PM

HOURLY VOLUMES



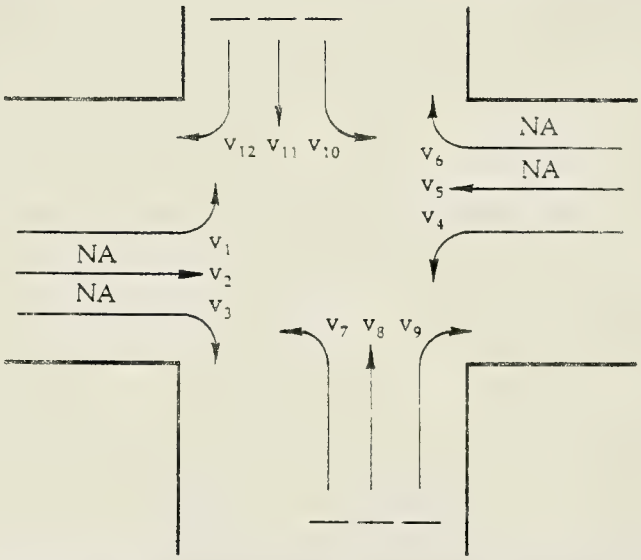
Date of counts:
Time Period:
Average Running Speed:
PHF:

8-HR = 1-HR X 0.79

VOLUME ADJUSTMENTS

Movement No.	1	2	3	4	5	6	7	8	9	10	11	12
Volume (vph)	30	785	64	25	731	30	0	15	20	44	15	35
Vol. (pcph), see Table 10-1	33			28			0	17	22	49	17	38

VOLUMES IN PCPH



1990

#6 WORKSHEET FOR FOUR-LEG INTERSECTIONS 8-HR Page 2

STEP 1: RT From Minor Street	⌜ V_9	⌟ V_{12} #6 PM
Conflicting Flows, V_c	$1/2\,V_3 + V_2 = V_{c9}$ 32 + 785 = 817 vph	$1/2\,V_6 + V_5 = V_{c12}$ 15 + 731 = 746 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p9} = 420 pcph	c_{p12} = 450 pcph
Percent of c_p Utilized	$(v_9/c_{p9}) \times 100$ = 5.2 %	$(v_{12}/c_{p12}) \times 100$ = 8.4 %
Impedance Factor, P (Fig. 10-5)	P_9 = 0.965	P_{12} = 0.945
Actual Capacity, c_m	$c_{m9} = c_{p9}$ = 420 pcph	$c_{m12} = c_{p12}$ = 450 pcph

STEP 2: LT From Major Street	⌜ V_4	⌟ V_1
Conflicting Flows, V_c	$V_3 + V_2 = V_{c4}$ 64 + 785 = 849 vph	$V_6 + V_5 = V_{c1}$ 30 + 731 = 761 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p4} = 400 pcph	c_{p1} = 440 pcph
Percent of c_p Utilized	$(v_4/c_{p4}) \times 100$ = 7.0 %	$(v_1/c_{p1}) \times 100$ = 7.5 %
Impedance Factor, P (Fig. 10-5)	P_4 = 0.955	P_1 = 0.95
Actual Capacity, c_m	$c_{m4} = c_{p4}$ = 400 pcph	$c_{m1} = c_{p1}$ = 440 pcph

STEP 3: TH From Minor Street	↑ V_8	↓ V_{11}
Conflicting Flows, V_c	$1/2V_3+V_2+V_1+V_6+V_5+V_4=V_{c8}$ 32 + 785 + 30 + 30 + 731 + 25 = 1633 vph	$1/2V_6+V_5+V_4+V_3+V_2+V_1=V_{c11}$ 15 + 731 + 25 + 64 + 785 + 30 = 1650 vph
Critical Gap, T_c (Tab. 10-2)	6.5 (sec)	6.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p8} = 90 pcph	c_{p11} = 85 pcph
Percent of c_p Utilized	$(v_8/c_{p8}) \times 100$ = 18.9 %	$(v_{11}/c_{p11}) \times 100$ = 20. %
Impedance Factor, P (Fig. 10-5)	P_8 = 0.865	P_{11} = 0.86
Actual Capacity, c_m	$c_{m8} = c_{p8} \times P_1 \times P_4$ 82 = 90 × .95 × .955 (pcph)	$c_{m11} = c_{p11} \times P_1 \times P_4$ 77 = 85 × 0.95 × 0.955 (pcph)

STEP 4: LT From Minor Street	⌝ V_7	⌞ V_{10}
Conflicting Flows, V_c	V_{c8} (step 3) + V_{11} + V_{12} = V_{c7} 1633 + 15 + 35 = 1683 vph	V_{c11} (step 3) + V_8 + V_9 = V_{c10} 1650 + 15 + 20 = 1685 vph
Critical Gap, T_c (Tab. 10-2)	7.0 (sec)	7.0 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p7} = 60 pcph	c_{p10} = 60 pcph
Actual Capacity, c_m	$c_{m7} = c_{p7} \times P_1 \times P_4 \times P_{11} \times P_{12}$ 44 = 60 × .95 × .955 × .86 × .945 (pcph)	$c_{m10} = c_{p10} \times P_4 \times P_1 \times P_8 \times P_9$ 45 = 60 × .955 × .95 × .865 × .965 (pcph)

SHARED-LANE CAPACITY 1990 8-HR PM

$$c_{SH} = \frac{v_i + v_j}{(v_i/c_{mi}) + (v_j/c_{mj})}$$ where 2 movements share a lane

$$c_{SH} = \frac{v_i + v_j + v_k}{(v_i/c_{mi}) + (v_j/c_{mj}) + (v_k/c_{mk})}$$ where 3 movements share a lane

MINOR STREET APPROACH MOVEMENTS 7, 8, 9 Haverhill

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
7	0	44			
8	17	82	150		
9	22	420	150		

MINOR STREET APPROACH MOVEMENTS 10, 11, 12 Accolon

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
10	49	45	75		
11	17	77	75		
12	38	450	75		

MAJOR STREET LEFT TURNS 1, 4

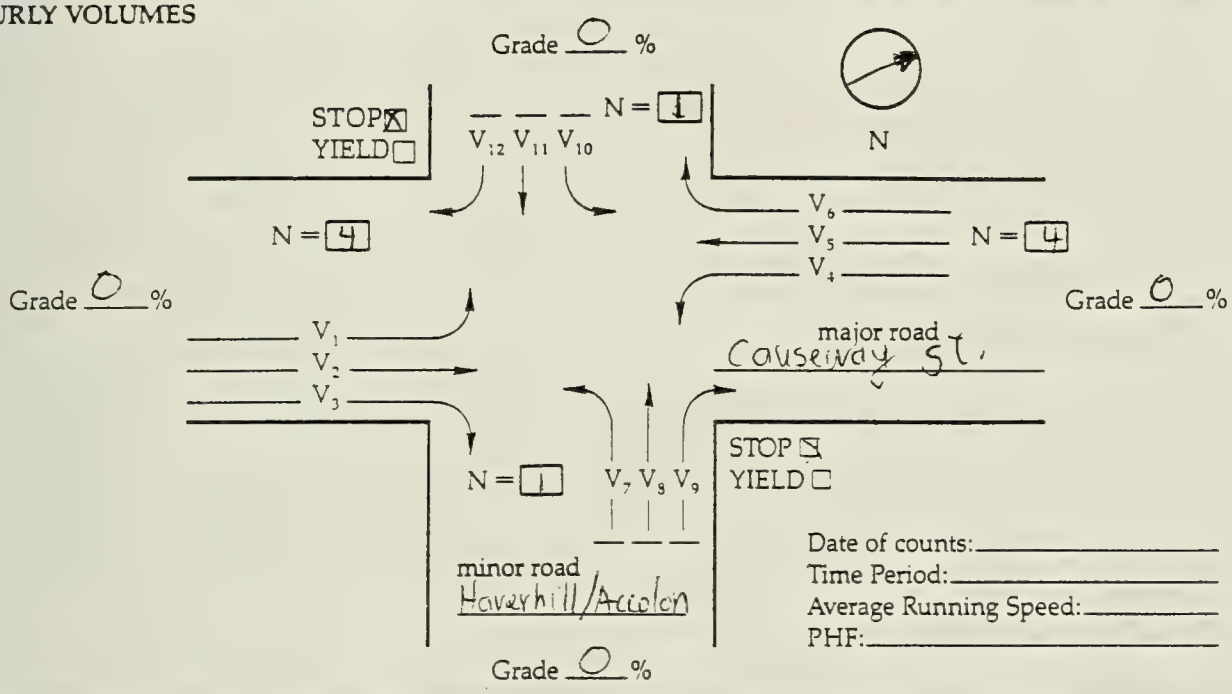
Movement	v (pcph)	c_m (pcph)	$c_R = c_m - v$	LOS
1				
4				

COMMENTS:

#6 WORKSHEET FOR FOUR-LEG INTERSECTIONS #6 Page 1

Location: Causeway St / Haverhill/Accolon Name: 1995 PM 1-HR Build

HOURLY VOLUMES

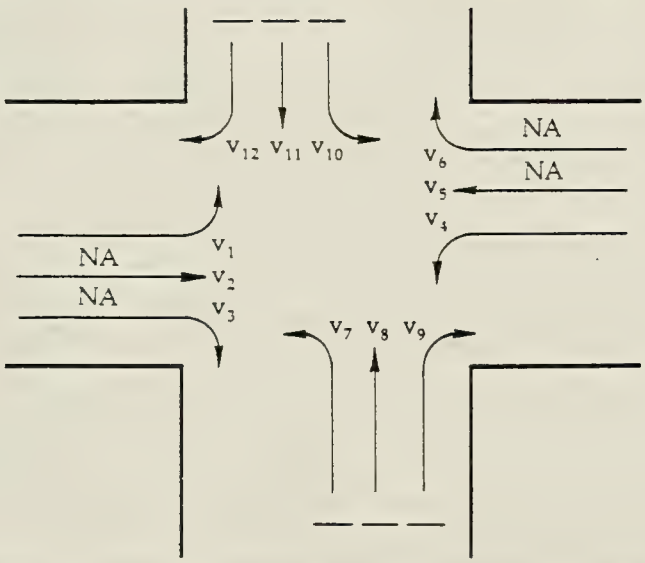


Date of counts:
Time Period:
Average Running Speed:
PHF:

VOLUME ADJUSTMENTS

Movement No.	1	2	3	4	5	6	7	8	9	10	11	12
Volume (vph)	44	1031	81	31	906	144	0	19	25	300	19	81
Vol. (pcph), see Table 10-1	48			34			0	21	28	330	21	89

VOLUMES IN PCPH



1-HR Build

#6 WORKSHEET FOR FOUR-LEG INTERSECTIONS 1995 PM Page 2

STEP 1: RT From Minor Street	⌜ V_9	⌟ V_{12} #6
Conflicting Flows, V_c	$1/2\,V_3 + V_2 = V_{c9}$ 41 + 1031 = 1072 vph	$1/2\,V_6 + V_5 = V_{c12}$ 72 + 906 = 978 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p9} = 290 pcph	c_{p12} = 340 pcph
Percent of c_p Utilized	$(v_9/c_{p9}) \times 100$ = 9.7 %	$(v_{12}/c_{p12}) \times 100$ = 26.2 %
Impedance Factor, P (Fig. 10-5)	P_9 = 0.94	P_{12} = 0.80
Actual Capacity, c_m	$c_{m9} = c_{p9}$ = 290 pcph	$c_{m12} = c_{p12}$ = 340 pcph

STEP 2: LT From Major Street	⌜ V_4	⌟ V_1
Conflicting Flows, V_c	$V_3 + V_2 = V_{c4}$ 81 + 1031 = 1112 vph	$V_6 + V_5 = V_{c1}$ 144 + 906 = 1058 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p4} = 280 pcph	c_{p1} = 305 pcph
Percent of c_p Utilized	$(v_4/c_{p4}) \times 100$ = 12.1 %	$(v_1/c_{p1}) \times 100$ = 15.7 %
Impedance Factor, P (Fig. 10-5)	P_4 = 0.92	P_1 = 0.89
Actual Capacity, c_m	$c_{m4} = c_{p4}$ = 280 pcph	$c_{m1} = c_{p1}$ = 305 pcph

STEP 3: TH From Minor Street	↑ V_8	↓ V_{11}
Conflicting Flows, V_c	$1/2V_3+V_2+V_1+V_6+V_5+V_4=V_{c8}$ 41 + 1031 + 44 + 144 + 906 + 31 = 2197 vph	$1/2V_6+V_5+V_4+V_3+V_2+V_1=V_{c11}$ 72 + 906 + 31 + 81 + 1031 + 44 = 2165 vph
Critical Gap, T_c (Tab. 10-2)	6.5 (sec)	6.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p8} = 55 pcph	c_{p11} = 55 pcph
Percent of c_p Utilized	$(v_8/c_{p8}) \times 100$ = 38.2 %	$(v_{11}/c_{p11}) \times 100$ = 38.2 %
Impedance Factor, P (Fig. 10-5)	P_8 = 0.69	P_{11} = 0.69
Actual Capacity, c_m	$c_{m8} = c_{p8} \times P_1 \times P_4$ 45 = 55 × 0.89 × 0.92 (pcph)	$c_{m11} = c_{p11} \times P_1 \times P_4$ 45 = 55 × 0.89 × 0.92 (pcph)

STEP 4: LT From Minor Street	⌜ V_7	⌞ V_{10}
Conflicting Flows, V_c	V_{c8} (step 3) + V_{11} + V_{12} = V_{c7} 2197 + 19 + 81 = 2297 vph	V_{c11} (step 3) + V_9 − V_6 = V_{c10} 2165 + 19 + 25 = 2209 vph
Critical Gap, T_c (Tab. 10-2)	7.5 (sec)	7.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p7} = 40 pcph	c_{p10} = 42 pcph
Actual Capacity, c_m	$c_{m7} = c_{p7} \times P_1 \times P_4 \times P_{11} \times P_{12}$ 18 = 40 × .89 × .92 × .69 × .80 (pcph)	$c_{m10} = c_{p10} \times P_4 \times P_1 \times P_4 \times P_5$ 22 = 42 × .92 × .89 × .69 × .94 (pcph)

WORKSHEET FOR FOUR-LEG INTERSECTIONS 1995 Page 3

SHARED-LANE CAPACITY PM 1-Hr Build

$$c_{SH} = \frac{v_i + v_j}{(v_i/c_{mi}) + (v_j/c_{mj})}$$ where 2 movements share a lane

$$c_{SH} = \frac{v_i + v_j + v_k}{(v_i/c_{mi}) + (v_j/c_{mj}) + (v_k/c_{mk})}$$ where 3 movements share a lane

MINOR STREET APPROACH MOVEMENTS 7, 8, 9 Haverhill

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
7	0	18			
8	21	45	87		
9	28	290	87		

MINOR STREET APPROACH MOVEMENTS 10, 11, 12 Accolon Way

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
10	330	22	28		
11	21	45	28		
12	89	340	28		

MAJOR STREET LEFT TURNS 1, 4

Movement	v (pcph)	c_m (pcph)	$c_R = c_m - v$	LOS
1				
4				

COMMENTS:

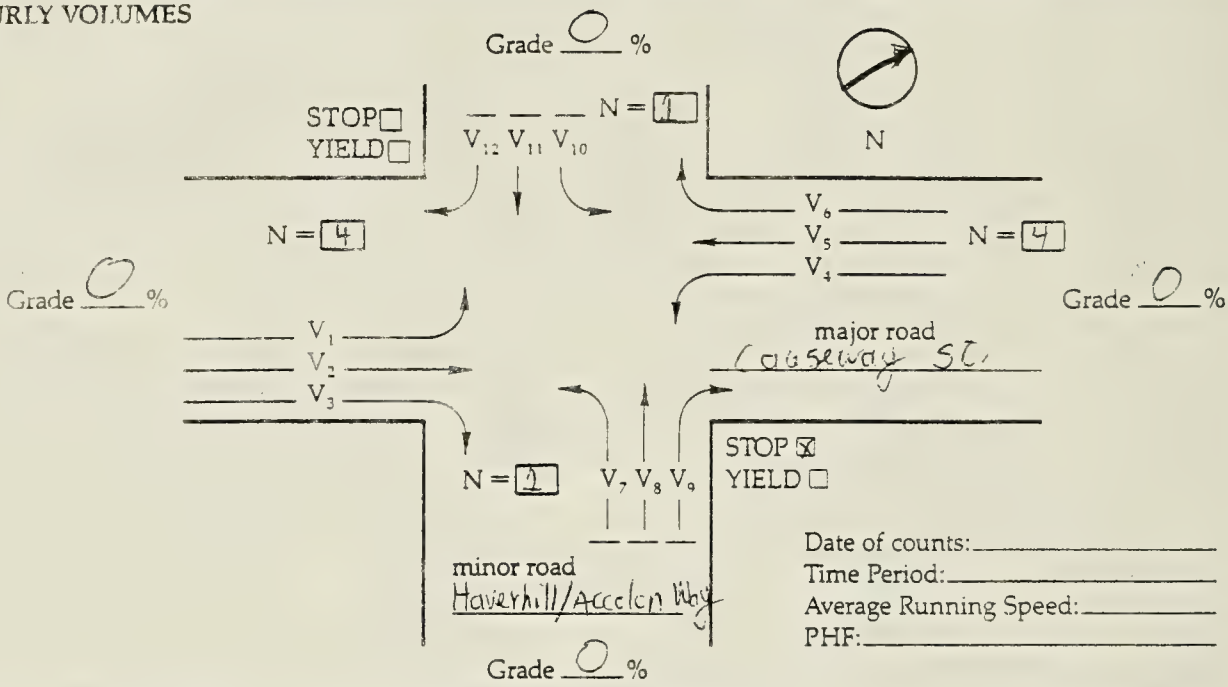
#6

WORKSHEET FOR FOUR-LEG INTERSECTIONS

Page 1

Location: Causeway St./Haverhill/Accolon Name: 1995 PM #6 8-HR Build

HOURLY VOLUMES



Date of counts:

Time Period:

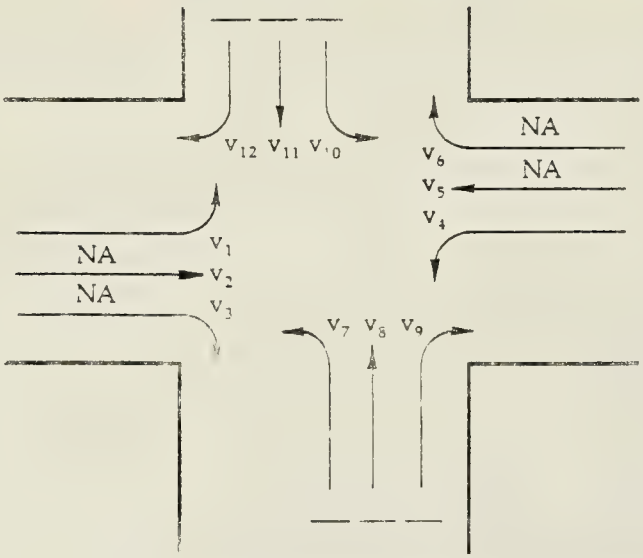
Average Running Speed:

PHF:

VOLUME ADJUSTMENTS

Movement No.	1	2	3	4	5	6	7	8	9	10	11	12
Volume (vph)	35	814	64	25	716	114	0	15	20	237	15	64
Vol. (pcph), see Table 10-1	39			28			0	17	22	261	17	70

VOLUMES IN PCPH



8-HR Build

#6 **WORKSHEET FOR FOUR-LEG INTERSECTIONS** 1995 Page 2

STEP 1: RT From Minor Street	⌜ V_9	⌟ V_{12}
Conflicting Flows, V_c	$1/2\,V_3 + V_2 = V_{c9}$ 32 + 814 = 846 vph	$1/2\,V_6 + V_5 = V_{c12}$ 57 + 716 = 773 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p9} = 400 pcph	c_{p12} = 435.0 pcph
Percent of c_p Utilized	$(v_9/c_{p9}) \times 100$ = 5.5 %	$(v_{12}/c_{p12}) \times 100$ = 16.1 %
Impedance Factor, P (Fig. 10-5)	P_9 = 0.96	P_{12} = 0.88
Actual Capacity, c_m	$c_{m9} = c_{p9}$ = 400 pcph	$c_{m12} = c_{p12}$ = 435 pcph
STEP 2: LT From Major Street	⌜ V_4	⌟ V_1
Conflicting Flows, V_c	$V_3 + V_2 = V_{c4}$ 64 + 814 = 878 vph	$V_6 + V_5 = V_{c1}$ 114 + 716 = 830 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p4} = 380 pcph	c_{p1} = 410 pcph
Percent of c_p Utilized	$(v_4/c_{p4}) \times 100$ = 7.4 %	$(v_1/c_{p1}) \times 100$ = 9.5 %
Impedance Factor, P (Fig. 10-5)	P_4 = 0.95	P_1 = 0.94
Actual Capacity, c_m	$c_{m4} = c_{p4}$ = 380 pcph	$c_{m1} = c_{p1}$ = 410 pcph
STEP 3: TH From Minor Street	↑ V_8	↓ V_{11}
Conflicting Flows, V_c	$1/2V_3+V_2+V_1+V_6+V_5+V_4=V_{c8}$ 32 + 814 + 35 + 114 + 716 + 25 = 1736 vph	$1/2V_6+V_5+V_4+V_3+V_2+V_1=V_{c11}$ 57 + 716 + 25 + 64 + 814 + 35 = 1711 vph
Critical Gap, T_c (Tab. 10-2)	6.5 (sec)	6.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p8} = 80 pcph	c_{p11} = 83 pcph
Percent of c_p Utilized	$(v_8/c_{p8}) \times 100$ = 21.3 %	$(v_{11}/c_{p11}) \times 100$ = 20.5 %
Impedance Factor, P (Fig. 10-5)	P_8 = 0.85	P_{11} = 0.86
Actual Capacity, c_m	$c_{m8} = c_{p8} \times P_1 \times P_4$ 71 = 80 × 0.94 × 0.95 (pcph)	$c_{m11} = c_{p11} \times P_1 \times P_4$ 74 = 83 × 0.94 × 0.95 (pcph)
STEP 4: LT From Minor Street	⌝ V_7	⌞ V_{10}
Conflicting Flows, V_c	V_{c8} (step 3) + V_{11} + V_{12} = V_{c7} 1736 + 15 + 64 = 1815 vph	V_{c11} (step 3) + V_8 + V_9 = V_{c10} 1711 + 15 + 20 = 1746 vph
Critical Gap, T_c (Tab. 10-2)	7.5 (sec)	7.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p7} = 50 pcph	c_{p10} = 55 pcph
Actual Capacity, c_m	$c_{m7} = c_{p7} \times P_1 \times P_4 \times P_{11} \times P_{12}$ 34 = 50 × .94 × 0.95 × 0.86 × 0.88 (pcph)	$c_{m10} = c_{p10} \times P_4 \times P_1 \times P_8 \times P_9$ 40 = 55 × .95 × .94 × .85 × .96 (pcph)

SHARED-LANE CAPACITY #6 1995 8-HR Build PM

$$c_{SH} = \frac{v_i + v_j}{(v_i/c_{mi}) + (v_j/c_{mj})}$$ where 2 movements share a lane

$$c_{SH} = \frac{v_i + v_j + v_k}{(v_i/c_{mi}) + (v_j/c_{mj}) + (v_k/c_{mk})}$$ where 3 movements share a lane

MINOR STREET APPROACH MOVEMENTS 7, 8, 9 Haverhill

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
7	0	34			
8	17	71	132		
9	22	400	132		

MINOR STREET APPROACH MOVEMENTS 10, 11, 12 Accolon

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
10	261	40	50		
11	17	74	50		
12	70	435	50		

MAJOR STREET LEFT TURNS 1, 4

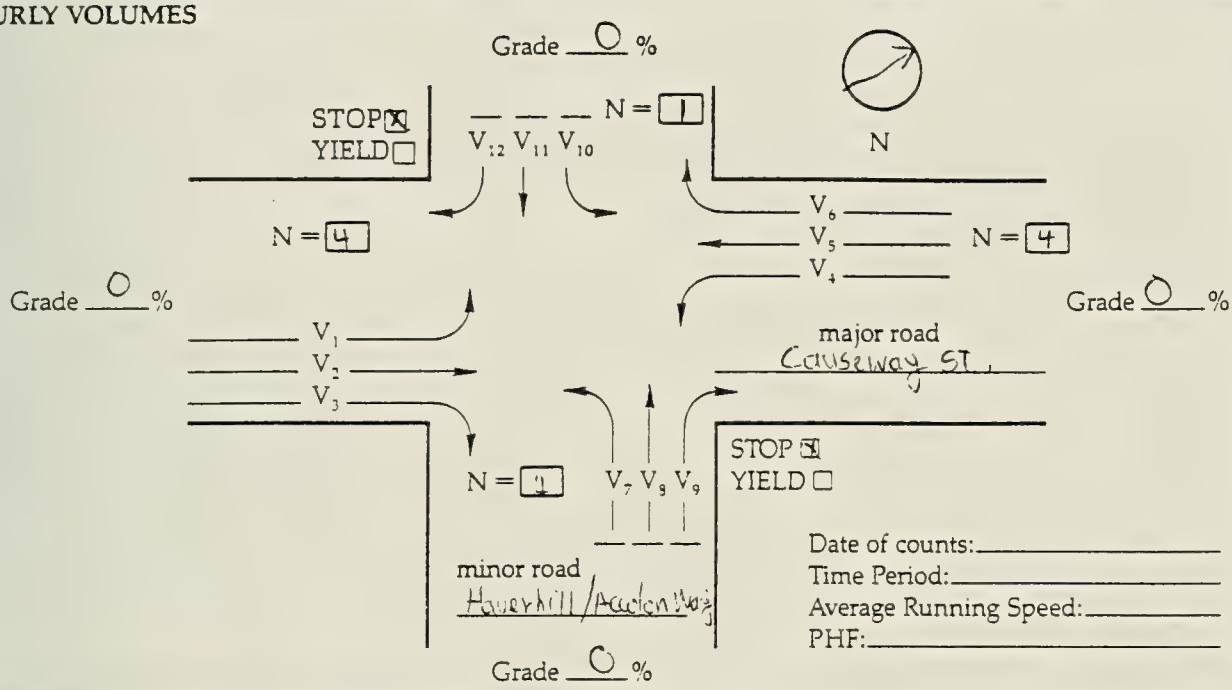
Movement	v (pcph)	c_m (pcph)	$c_R = c_m - v$	LOS
1				
4				

COMMENTS:

#6 WORKSHEET FOR FOUR-LEG INTERSECTIONS Page 1

Location: Causelway St / Haverhill St. Name: 1995 PM 1-HR No-Build
Accelon Way

HOURLY VOLUMES

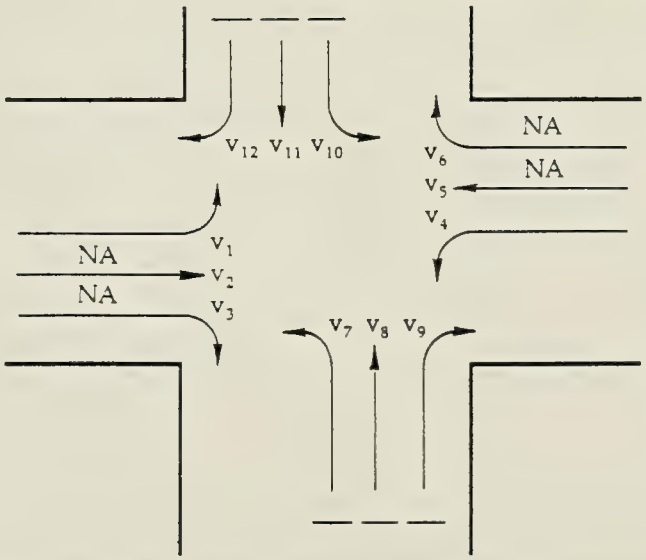


Date of counts:
Time Period:
Average Running Speed:
PHF:

VOLUME ADJUSTMENTS

Movement No.	1	2	3	4	5	6	7	8	9	10	11	12
Volume (vph)	38	1031	81	31	906	38	0	19	25	175	19	0
Vol. (pcph), see Table 10-1	42			34			0	21	28	193	21	0

VOLUMES IN PCPH



1-HR No Build

#6 WORKSHEET FOR FOUR-LEG INTERSECTIONS 1995 PM Page 2

STEP 1: RT From Minor Street	⌜ V_9	⌟ V_{12}
Conflicting Flows, V_c	$1/2\,V_3 + V_2 = V_{c9}$ 41 + 1031 = 1072 vph	$1/2\,V_6 + V_5 = V_{c12}$ 19 + 906 = 925 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	$c_{p9} =$ 290 pcph	$c_{p12} =$ 870 pcph
Percent of c_p Utilized	$(v_9/c_{p9}) \times 100 =$ 9.7 %	$(v_{12}/c_{p12}) \times 100 =$ 0 %
Impedance Factor, P (Fig. 10-5)	$P_9 =$ 0.94	$P_{12} =$ 1.0
Actual Capacity, c_m	$c_{m9} = c_{p9} =$ 290 pcph	$c_{m12} = c_{p12} =$ 370 pcph

STEP 2: LT From Major Street	⌜ V_4	⌟ V_1
Conflicting Flows, V_c	$V_3 + V_2 = V_{c4}$ 81 + 1031 = 1112 vph	$V_6 + V_5 = V_{c1}$ 38 + 906 = 944 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	$c_{p4} =$ 275 pcph	$c_{p1} =$ 350 pcph
Percent of c_p Utilized	$(v_4/c_{p4}) \times 100 =$ 12.4 %	$(v_1/c_{p1}) \times 100 =$ 12 %
Impedance Factor, P (Fig. 10-5)	$P_4 =$ 0.92	$P_1 =$ 0.92
Actual Capacity, c_m	$c_{m4} = c_{p4} =$ 275 pcph	$c_{m1} = c_{p1} =$ 350 pcph

STEP 3: TH From Minor Street	↑ V_8	↓ V_{11}
Conflicting Flows, V_c	$1/2V_3+V_2+V_1+V_6+V_5+V_4=V_{c8}$ 41 + 1031 + 38 + 38 + 906 + 31 = 2085 vph	$1/2V_6+V_5+V_4+V_3+V_2+V_1=V_{c11}$ 19 + 906 + 31 + 81 + 1031 + 38 = 2106 vph
Critical Gap, T_c (Tab. 10-2)	6.5 (sec)	6.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	$c_{p8} =$ 60 pcph	$c_{p11} =$ 55 pcph
Percent of c_p Utilized	$(v_8/c_{p8}) \times 100 =$ 35 %	$(v_{11}/c_{p11}) \times 100 =$ 38.2 %
Impedance Factor, P (Fig. 10-5)	$P_8 =$ 0.72	$P_{11} =$ 0.38
Actual Capacity, c_m	$c_{m8} = c_{p8} \times P_1 \times P_4$ 51 = 60 × 0.92 × 0.92 (pcph)	$c_{m11} = c_{p11} \times P_1 \times P_4$ 47 = 55 × 0.92 × 0.92 (pcph)

STEP 4: LT From Minor Street	⌝ V_7	⌞ V_{10}
Conflicting Flows, V_c	V_{c8} (step 3) $+ V_{11} + V_{12} = V_{c7}$ 2085 + 19 + 0 = 2104 vph	V_{c11} (step 3) $+ V_8 + V_9 = V_{c10}$ 2106 + 19 + 25 = 2150 vph
Critical Gap, T_c (Tab. 10-2)	7.5 (sec)	7.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	$c_{p7} =$ 40 pcph	$c_{p10} =$ 35 pcph
Actual Capacity, c_m	$c_{m7} = c_{p7} \times P_1 \times P_4 \times P_{11} \times P_{12}$ 13 = 40 × .92 × 0.92 × 0.38 × 1.0 (pcph)	$c_{m10} = c_{p10} \times P_4 \times P_1 \times P_8 \times P_{\cdot}$ 20 = 35 × .92 × 0.92 × 0.72 × 0.94 (pcph)

SHARED-LANE CAPACITY 1995 PM 1-HR No-Bld

$$c_{SH} = \frac{v_i + v_j}{(v_i/c_{mi}) + (v_j/c_{mj})}$$ where 2 movements share a lane

$$c_{SH} = \frac{v_i + v_j + v_k}{(v_i/c_{mi}) + (v_j/c_{mj}) + (v_k/c_{mk})}$$ where 3 movements share a lane

MINOR STREET APPROACH MOVEMENTS 7, 8, 9 Haverhill

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
7	0	13			
8	21	51	96		
9	28	290	96		

MINOR STREET APPROACH MOVEMENTS 10, 11, 12 Accolon

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
10	193	20	31		
11	21	47	31		
12	0	370			

MAJOR STREET LEFT TURNS 1, 4

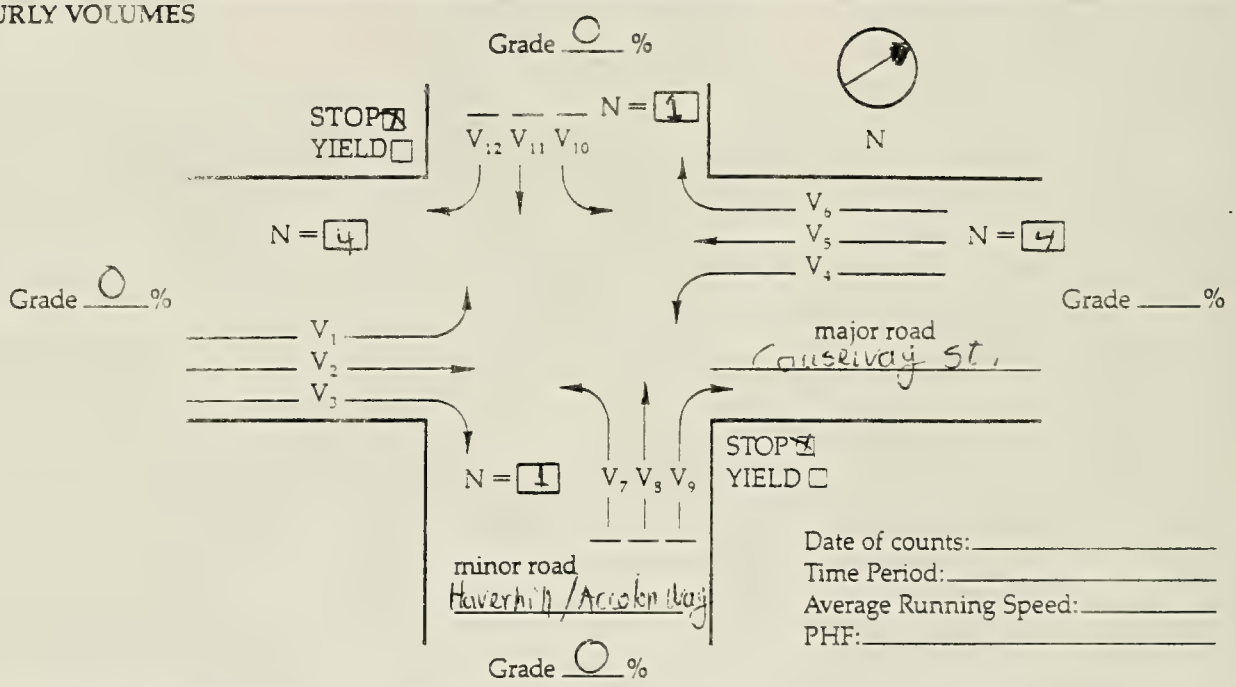
Movement	v (pcph)	c_m (pcph)	$c_R = c_m - v$	LOS
1				
4				

COMMENTS:

#6 WORKSHEET FOR FOUR-LEG INTERSECTIONS Page 1

Location: Causeway St. / Haverhill St / Accolon Way Name: 1995 PM 8-HR No-Build

HOURLY VOLUMES

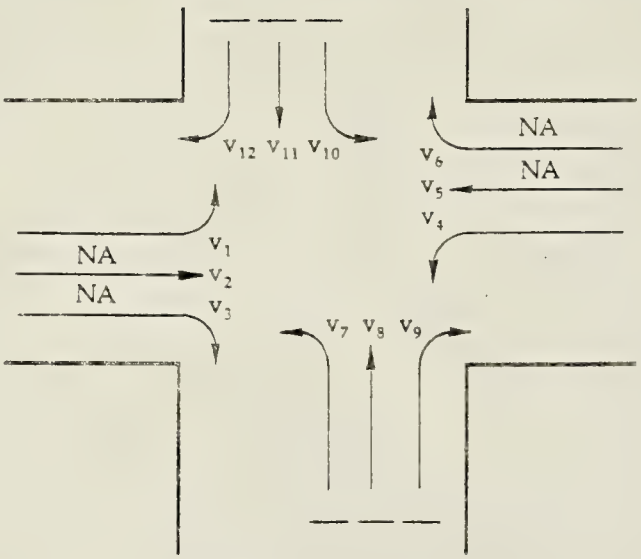


Date of counts:
Time Period:
Average Running Speed:
PHF:

VOLUME ADJUSTMENTS

Movement No.	1	2	3	4	5	6	7	8	9	10	11	12
Volume (vph)	30	814	64	25	716	30	0	15	20	138	15	0
Vol. (pcph), see Table 10-1	33			28			0	17	22	152	17	0

VOLUMES IN PCPH



8-HR No-Build

#6 WORKSHEET FOR FOUR-LEG INTERSECTIONS 1995 PM Page 2

STEP 1: RT From Minor Street	⌜ V_9	⌟ V_{12} #6
Conflicting Flows, V_c	$1/2\,V_3 + V_2 = V_{c9}$ 32 + 814 = 846 vph	$1/2\,V_6 + V_5 = V_{c12}$ 15 + 716 = 731 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p9} = 400 pcph	c_{p12} = 460 pcph
Percent of c_p Utilized	$(v_9/c_{p9}) \times 100$ = 5.5 %	$(v_{12}/c_{p12}) \times 100$ = 0 %
Impedance Factor, P (Fig. 10-5)	P_9 = 0.96	P_{12} = 1.0
Actual Capacity, c_m	$c_{m9} = c_{p9}$ = 400 pcph	$c_{m12} = c_{p12}$ = 460 pcph

STEP 2: LT From Major Street	⌜ V_4	⌟ V_1
Conflicting Flows, V_c	$V_3 + V_2 = V_{c4}$ 64 + 814 = 878 vph	$V_6 + V_5 = V_{c1}$ 30 + 716 = 746 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p4} = 380 pcph	c_{p1} = 450 pcph
Percent of c_p Utilized	$(v_4/c_{p4}) \times 100$ = 7.4 %	$(v_1/c_{p1}) \times 100$ = 7.3 %
Impedance Factor, P (Fig. 10-5)	P_4 = 0.95	P_1 = 0.95
Actual Capacity, c_m	$c_{m4} = c_{p4}$ = _____ pcph	$c_{m1} = c_{p1}$ = _____ pcph

STEP 3: TH From Minor Street	↑ V_8	↓ V_{11}
Conflicting Flows, V_c	$1/2V_3+V_2+V_1+V_6+V_5+V_4=V_{c8}$ 32 + 814 + 30 + 30 + 716 + 25 = 1647 vph	$1/2V_6+V_5+V_4+V_3+V_2+V_1=V_{c11}$ 15 + 716 + 25 + 64 + 814 + 30 = 1664 vph
Critical Gap, T_c (Tab. 10-2)	6.5 (sec)	6.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p8} = 85 pcph	c_{p11} = 84 pcph
Percent of c_p Utilized	$(v_8/c_{p8}) \times 100$ = 20 %	$(v_{11}/c_{p11}) \times 100$ = 20.2 %
Impedance Factor, P (Fig. 10-5)	P_8 = 0.86	P_{11} = 0.86
Actual Capacity, c_m	$c_{m8} = c_{p8} \times P_1 \times P_4$ 77 = 85 × .95 × .95 (pcph)	$c_{m11} = c_{p11} \times P_1 \times P_4$ 76 = 84 × .95 × .95 (pcph)

STEP 4: LT From Minor Street	⌝ V_7	⌞ V_{10}
Conflicting Flows, V_c	V_{c8} (step 3) + V_{11} + V_{12} = V_{c7} 1647 + 15 + 0 = 1662 vph	V_{c11} (step 3) + V_8 + V_9 = V_{c10} 1664 + 15 + 20 = 1699 vph
Critical Gap, T_c (Tab. 10-2)	7.5 (sec)	7.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p7} = 50 pcph	c_{p10} = 50 pcph
Actual Capacity, c_m	$c_{m7} = c_{p7} \times P_1 \times P_4 \times P_{11} \times P_{12}$ 39 = 50 × .95 × .95 × .86 × 1.0 (pcph)	$c_{m10} = c_{p10} \times P_4 \times P_1 \times P_8 \times P_9$ 37 = 50 × .95 × .95 × .86 × .96 (pcph)

SHARED-LANE CAPACITY 1995 PM 8-HR No-Build

$$c_{SH} = \frac{v_i + v_j}{(v_i/c_{mi}) + (v_j/c_{mj})}$$ where 2 movements share a lane

$$c_{SH} = \frac{v_i + v_j + v_k}{(v_i/c_{mi}) + (v_j/c_{mj}) + (v_k/c_{mk})}$$ where 3 movements share a lane

MINOR STREET APPROACH MOVEMENTS 7, 8, 9 Haverhill

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
7	0	39			
8	17	77	141		
9	22	400	141		

MINOR STREET APPROACH MOVEMENTS 10, 11, 12 Accolon Way

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
10	152	37	43		
11	17	76	43		
12	0	460			

MAJOR STREET LEFT TURNS 1, 4

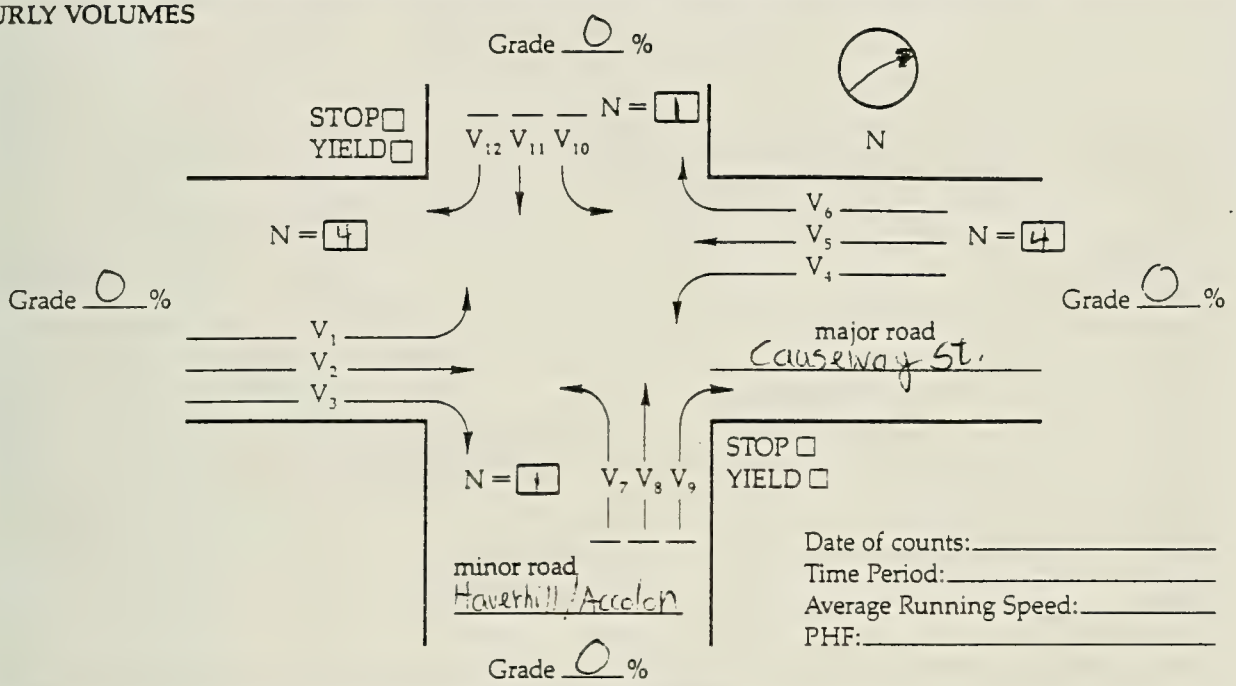
Movement	v (pcph)	c_m (pcph)	$c_R = c_m - v$	LOS
1				
4				

COMMENTS:

#6 WORKSHEET FOR FOUR-LEG INTERSECTIONS Page 1

Location: Causeway St/Haverhill/Accelon Name: 2000 AM 1-HR Build

HOURLY VOLUMES

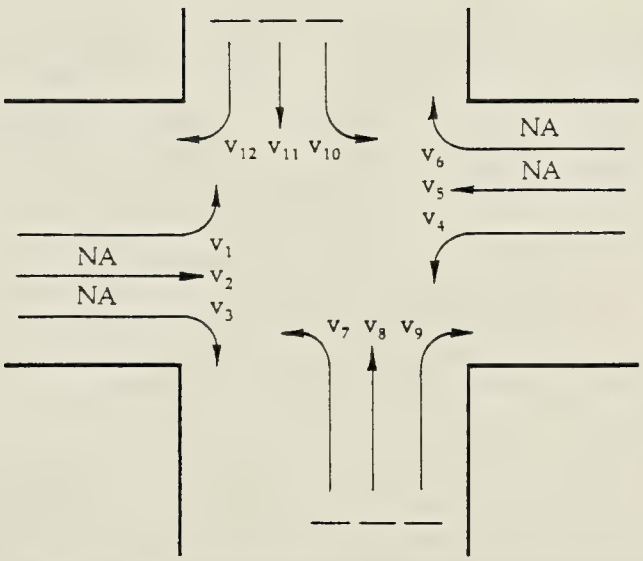


Date of counts: _____
Time Period: _____
Average Running Speed: _____
PHF: _____

VOLUME ADJUSTMENTS

Movement No.	1	2	3	4	5	6	7	8	9	10	11	12
Volume (vph)	51	550	788	231	1094	741	0	0	0	4	14	15
Vol. (pcph), see Table 10-1	64			254			0	0	0	5	15	17

VOLUMES IN PCPH



1-HR Build

#6

WORKSHEET FOR FOUR-LEG INTERSECTIONS 2000 AM Page 2

STEP 1: RT From Minor Street	⌜ V_9	⌟ V_{12}
Conflicting Flows, V_c	$1/2\,V_3 + V_2 = V_{c9}$ 394 + 550 = 944 vph	$1/2\,V_6 + V_5 = V_{c12}$ 371 + 1094 = 1465 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p9} = 350 pcph	c_{p12} = 170 pcph
Percent of c_p Utilized	$(v_9/c_{p9}) \times 100$ = 0 %	$(v_{12}/c_{p12}) \times 100$ = 10 %
Impedance Factor, P (Fig. 10-5)	P_9 = 1.0	P_{12} = 0.94
Actual Capacity, c_m	$c_{m9} = c_{p9}$ = 350 pcph	$c_{m12} = c_{p12}$ = 170 pcph

STEP 2: LT From Major Street	⌜ V_4	⌟ V_1
Conflicting Flows, V_c	$V_3 + V_2 = V_{c4}$ 788 + 550 = 1338 vph	$V_6 + V_5 = V_{c1}$ 741 + 1094 = 1835 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p4} = 210 pcph	c_{p1} = 120 pcph
Percent of c_p Utilized	$(v_4/c_{p4}) \times 100$ = 1.21 %	$(v_1/c_{p1}) \times 100$ = 53.3 %
Impedance Factor, P (Fig. 10-5)	P_4 = 0	P_1 = 0.55
Actual Capacity, c_m	$c_{m4} = c_{p4}$ = 210 pcph	$c_{m1} = c_{p1}$ = 120 pcph

STEP 3: TH From Minor Street	↑ V_8	↓ V_{11}
Conflicting Flows, V	$1/2V_3+V_2+V_1+V_6+V_5+V_4=V_{c8}$ 394 + 550 + 51 + 741 + 1094 + 231 = 3061 vph	$1/2V_6+V_5+V_4+V_3+V_2+V_1=V_{c11}$ 371 + 1094 + 231 + 788 + 550 + 51 = 3085 vph
Critical Gap, T_c (Tab. 10-2)	6.5 (sec)	6.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p8} = 35 pcph	c_{p11} = 35 pcph
Percent of c_p Utilized	$(v_8/c_{p8}) \times 100$ = 0 %	$(v_{11}/c_{p11}) \times 100$ = 42.9 %
Impedance Factor, P (Fig. 10-5)	P_8 = 1.0	P_{11} = 0.65
Actual Capacity, c_m	$c_{m8} = c_{p8} \times P_1 \times P_4$ 0 = 35 × 0.55 × 0 (pcph) 10	$c_{m11} = c_{p11} \times P_1 \times P_4$ 0 = 35 × 0.55 × 0 (pcph) 10

STEP 4: LT From Minor Street	⌜ V_7	⌞ V_{10}
Conflicting Flows, V	V_{c8} (step 3) + V_{11} + V_{12} = V_{c7} 3061 + 14 + 15 = 3090 vph	V_{c11} (step 3) + V_8 + V_9 = V_{c10} 3085 + 0 + 0 = 3085 vph
Critical Gap, T_c (Tab. 10-2)	7.0 (sec)	7.0 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p7} = 25 pcph	c_{p10} = ____ pcph
Actual Capacity, c_m	$c_{m7} = c_{p7} \times P_1 \times P_4 \times P_{11} \times P_{12}$ ____ = 25 × 0.55 × 0 × 0.65 × 0.94 (pcph) 15	$c_{m10} = c_{p10} \times P_4 \times P_1 \times P_8 \times P_9$ ____ = ____ × 0 × 0.55 × 1.0 × 1.0 (pcph) 15

#6

WORKSHEET FOR FOUR-LEG INTERSECTIONS

SHARED-LANE CAPACITY 2000 AM 1-Hr Build

$$c_{SH} = \frac{v_i + v_j}{(v_i/c_{mi}) + (v_j/c_{mj})}$$ where 2 movements share a lane

$$c_{SH} = \frac{v_i + v_j + v_k}{(v_i/c_{mi}) + (v_j/c_{mj}) + (v_k/c_{mk})}$$ where 3 movements share a lane

MINOR STREET APPROACH MOVEMENTS 7, 8, 9 Haverhill St.

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
7	0				
8	0				
9	0				

MINOR STREET APPROACH MOVEMENTS 10, 11, 12 Accolon Way

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
10	5	15	19		
11	15	10	19		
12	17	170	19		

MAJOR STREET LEFT TURNS 1, 4

Movement	v (pcph)	c_m (pcph)	$c_R = c_m - v$	LOS
1				
4				

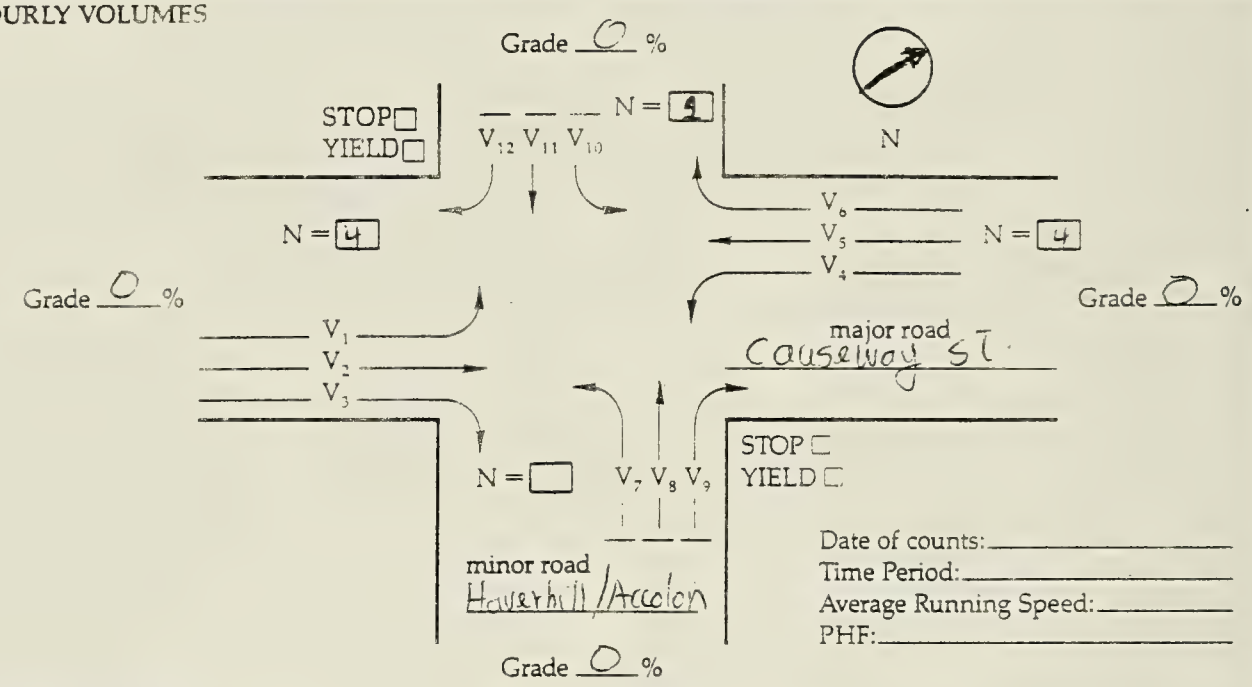
COMMENTS:

$C_{11} = 10$ are arbitrary small numbers
$C_{10} = 15$

#6 WORKSHEET FOR FOUR-LEG INTERSECTIONS Page 1

Location: Causeway St./Haverhill/Accolon Name: 2000 AM 8-HR Build

HOURLY VOLUMES

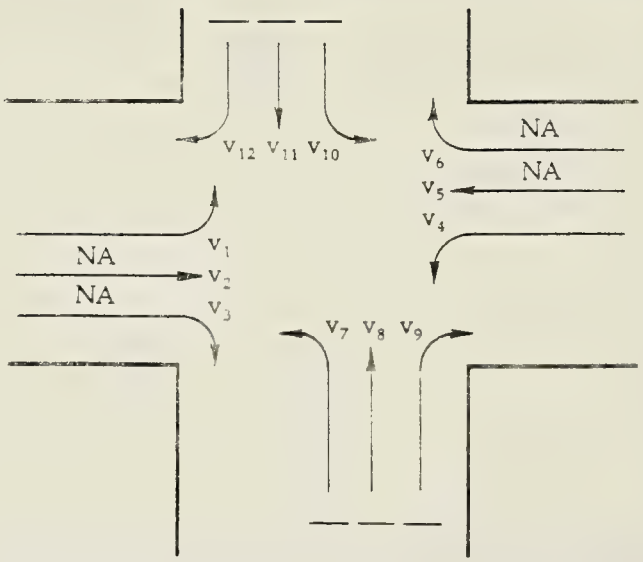


Date of counts:
Time Period:
Average Running Speed:
PHF:

VOLUME ADJUSTMENTS

Movement No.	1	2	3	4	5	6	7	8	9	10	11	12
Volume (vph)	40	435	623	182	864	585	0	0	0	3	11	12
Vol. (pcph), see Table 10-1	44			200			0	0	0	3	12	13

VOLUMES IN PCPH



8-HR Build

#6 WORKSHEET FOR FOUR-LEG INTERSECTIONS 2000 Page 2

STEP 1: RT From Minor Street	⌜ V_9	⌟ V_{12} #6
Conflicting Flows, V_c	$1/2\,V_3 + V_2 = V_{c9}$ 312 + 435 = 747 vph	$1/2\,V_6 + V_5 = V_{c12}$ 293 + 864 = 1157 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p9} = 450 pcph	c_{p12} = 265 pcph
Percent of c_p Utilized	$(v_9/c_{p9}) \times 100$ = 0 %	$(v_{12}/c_{p12}) \times 100$ = 4.9 %
Impedance Factor, P (Fig. 10-5)	P_9 = 1.0	P_{12} = 0.97
Actual Capacity, c_m	$c_{m9} = c_{p9}$ = 450 pcph	$c_{m12} = c_{p12}$ = 265 pcph
STEP 2: LT From Major Street	⌜ V_4	⌟ V_1
Conflicting Flows, V_c	$V_3 + V_2 = V_{c4}$ 623 + 435 = 1058 vph	$V_6 + V_5 = V_{c1}$ 585 + 864 = 1449 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p4} = 300 pcph	c_{p1} = 175 pcph
Percent of c_p Utilized	$(v_4/c_{p4}) \times 100$ = 66.7 %	$(v_1/c_{p1}) \times 100$ = 25.1 %
Impedance Factor, P (Fig. 10-5)	P_4 = 0.4	P_1 = 0.82
Actual Capacity, c_m	$c_{m4} = c_{p4}$ = 300 pcph	$c_{m1} = c_{p1}$ = 175 pcph
STEP 3: TH From Minor Street	↑ V_8	↓ V_{11}
Conflicting Flows, V_c	$1/2V_3+V_2+V_1+V_6+V_5+V_4=V_{c8}$ 312 + 435 + 40 + 585 + 864 + 182 = 2418 vph	$1/2V_6+V_5+V_4+V_3+V_2+V_1=V_{c11}$ 293 + 864 + 182 + 623 + 435 + 40 = 2437 vph
Critical Gap, T_c (Tab. 10-2)	6.5 (sec)	6.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p8} = 60 pcph	c_{p11} = 58 pcph
Percent of c_p Utilized	$(v_8/c_{p8}) \times 100$ = 0 %	$(v_{11}/c_{p11}) \times 100$ = 20.7 %
Impedance Factor, P (Fig. 10-5)	P_8 = 1.0	P_{11} = 0.85
Actual Capacity, c_m	$c_{m8} = c_{p8} \times P_1 \times P_4$ 20 = 60 × 0.82 × 0.4 (pcph)	$c_{m11} = c_{p11} \times P_1 \times P_4$ 19 = 58 × 0.82 × 0.4 (pcph)
STEP 4: LT From Minor Street	⌝ V_7	⌞ V_{10}
Conflicting Flows, V_c	V_{c8} (step 3) + V_{11} + V_{12} = V_{c7} 2418 + 12 + 13 = 2443 vph	V_{c11} (step 3) + V_8 + V_9 = V_{c10} 2437 + 0 + 0 = 2437 vph
Critical Gap, T_c (Tab. 10-2)	7.0 (sec)	7.0 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p7} = 50 pcph	c_{p10} = 50 pcph
Actual Capacity, c_m	$c_{m7} = c_{p7} \times P_1 \times P_4 \times P_{11} \times P_{12}$ 14 = 50 × 0.82 × 0.40 × 0.85 × 0.97 (pcph)	$c_{m10} = c_{p10} \times P_4 \times P_1 \times P_8 \times P_9$ 16 = 50 × 0.4 × 0.82 × 1.0 × 1.0 (pcph)

WORKSHEET FOR FOUR-LEG INTERSECTIONS

SHARED-LANE CAPACITY 2000 AM 8-HP Bld

$$c_{SH} = \frac{v_i + v_j}{(v_i/c_{mi}) + (v_j/c_{mj})}$$ where 2 movements share a lane

$$c_{SH} = \frac{v_i + v_j + v_k}{(v_i/c_{mi}) + (v_j/c_{mj}) + (v_k/c_{mk})}$$ where 3 movements share a lane

MINOR STREET APPROACH MOVEMENTS 7, 8, 9 Haverhill St.

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
7	0				
8	0				
9	0				

MINOR STREET APPROACH MOVEMENTS 10, 11, 12 Accolon Way

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
10	3	16	32		
11	12	19	32		
12	13	265	32		

MAJOR STREET LEFT TURNS 1, 4

Movement	v (pcph)	c_m (pcph)	$c_R = c_m - v$	LOS
1				
4				

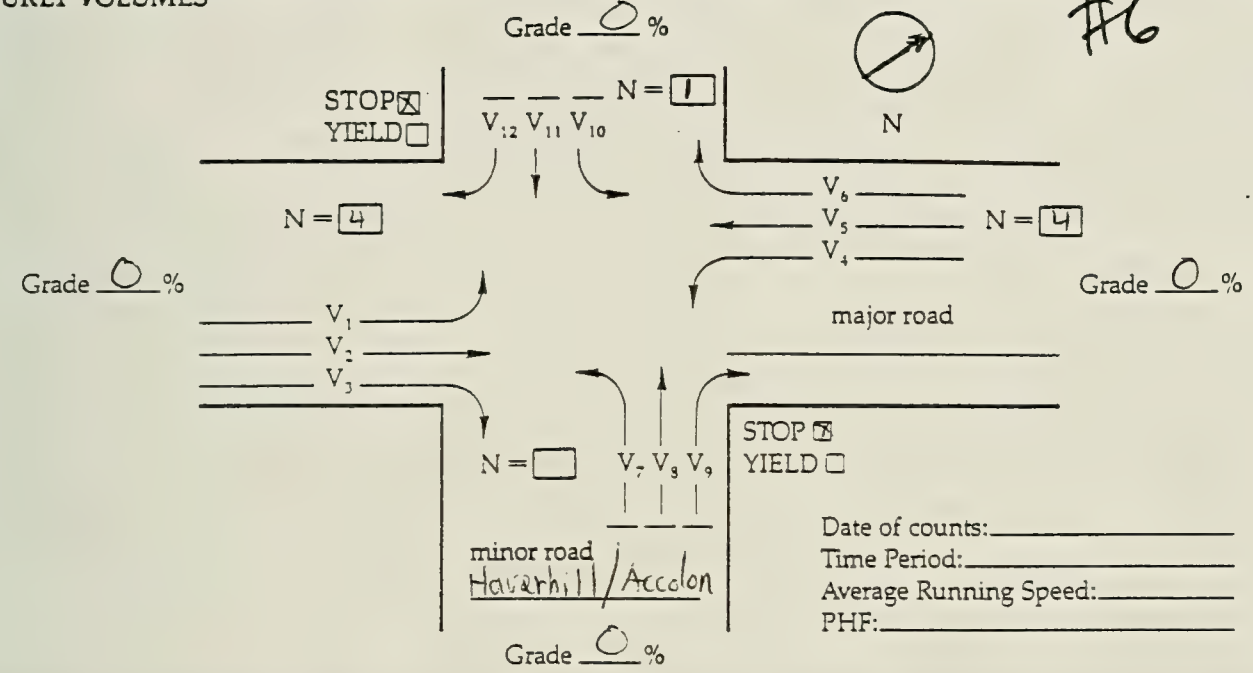
COMMENTS:

#6 WORKSHEET FOR FOUR-LEG INTERSECTIONS Page 1

Location: Causeway / Haverhill / Accolon Name: 2000 AM 1-HR No-Build

HOURLY VOLUMES

#6

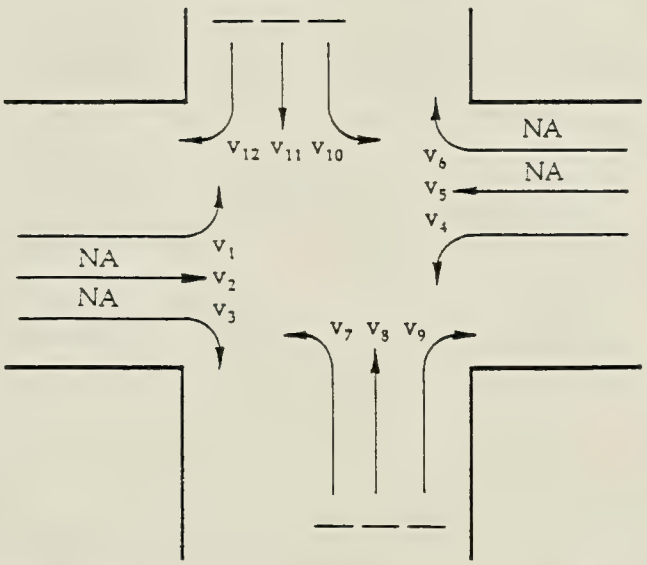


Date of counts:
Time Period:
Average Running Speed:
PHF:

VOLUME ADJUSTMENTS

Movement No.	1	2	3	4	5	6	7	8	9	10	11	12
Volume (vph)	31	550	788	231	1044	281	0	0	0	1	1	13
Vol. (pcph), see Table 10-1	34			254			0	0	0	1	1	14

VOLUMES IN PCPH



1-HR No-Build

#6 WORKSHEET FOR FOUR-LEG INTERSECTIONS 2000 AM Page 2

STEP 1: RT From Minor Street	⌜ V_9	⌟ V_{12} #6
Conflicting Flows, V_c	$1/2\,V_3 + V_2 = V_{c9}$ 394 + 550 = 944 vph	$1/2\,V_6 + V_5 = V_{c12}$ 141 + 1094 = 1235 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p9} = 350 pcph	c_{p12} = 240 pcph
Percent of c_p Utilized	$(v_9/c_{p9}) \times 100$ = 0 %	$(v_{12}/c_{p12}) \times 100$ = 5.8 %
Impedance Factor, P (Fig. 10-5)	P_9 = 1.0	P_{12} = 0.96
Actual Capacity, c_m	$c_{m9} = c_{p9}$ = 350 pcph	$c_{m12} = c_{p12}$ = 240 pcph

STEP 2: LT From Major Street	⌜ V_4	⌟ V_1
Conflicting Flows, V_c	$V_3 + V_2 = V_{C4}$ 788 + 550 = 1338 vph	$V_6 + V_5 = V_{c1}$ 281 + 1094 = 1375 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p4} = 215 pcph ⇒ 0.95	c_{p1} = 195 pcph
Percent of c_p Utilized	$(v_4/c_{p4}) \times 100$ = 1.18 %	$(v_1/c_{p1}) \times 100$ = 17.4 %
Impedance Factor, P (Fig. 10-5)	P_4 = 0	P_1 = 0.87
Actual Capacity, c_m	$c_{m4} = c_{p4}$ = 215 pcph	$c_{m1} = c_{p1}$ = 195 pcph

STEP 3: TH From Minor Street	↑ V_8	↓ V_{11}
Conflicting Flows, V_c	$1/2V_3+V_2+V_1+V_6+V_5+V_4=V_{c8}$ 394 + 550 + 31 + 281 + 1094 + 231 = 2581 vph	$1/2V_6+V_5+V_4+V_3+V_2+V_1=V_{c11}$ 141 + 1094 + 231 + 788 + 550 + 31 = 2835 vph
Critical Gap, T_c (Tab. 10-2)	6.5 (sec)	6.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p8} = 45 pcph	c_{p11} = 35 pcph
Percent of c_p Utilized	$(v_8/c_{p8}) \times 100$ = 0 %	$(v_{11}/c_{p11}) \times 100$ = 2.9 %
Impedance Factor, P (Fig. 10-5)	P_8 = 1.0	P_{11} = 0.98
Actual Capacity, c_m	$c_{m8} = c_{p8} \times P_1 \times P_4$ ____ = ____ × ____ × ____ (pcph)	$c_{m11} = c_{p11} \times P_1 \times P_4$ 10 = 35 × 0.87 × 0 (pcph) → 10

STEP 4: LT From Minor Street	⌝ V_7	⌞ V_{10}
Conflicting Flows, V_c	V_{c8} (step 3) + V_{11} + V_{12} = V_{c7} ____ + ____ + ____ = ____ vph	V_{c11} (step 3) + V_8 + V_9 = V_{c10} 2835 + 0 + 0 = 2835 vph
Critical Gap, T_c (Tab. 10-2)	7.0 (sec)	7.0 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p7} = ____ pcph	c_{p10} = 30 pcph
Actual Capacity, c_m	$c_{m7} = c_{p7} \times P_1 \times P_4 \times P_{11} \times P_{12}$ ____ = ____ × ____ × ____ × ____ × ____ (pcph)	$c_{m10} = c_{p10} \times P_4 \times P_1 \times P_8 \times P_9$ ____ = 30 × 0.87 × 1.0 × 1.0 × 0 (pcph) → 15

WORKSHEET FOR FOUR-LEG INTERSECTIONS

SHARED-LANE CAPACITY 2000 AM 1-HR No-Build #6

$$c_{SH} = \frac{v_i + v_j}{(v_i/c_{mi}) + (v_j/c_{mj})}$$ where 2 movements share a lane

$$c_{SH} = \frac{v_i + v_j + v_k}{(v_i/c_{mi}) + (v_j/c_{mj}) + (v_k/c_{mk})}$$ where 3 movements share a lane

MINOR STREET APPROACH MOVEMENTS 7, 8, 9 Haverhill St.

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
7	0				
8	0				
9	0				

MINOR STREET APPROACH MOVEMENTS 10, 11, 12 Accolon Way

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
10	1	15	71		
11	1	10	71		
12	14	240	71		

MAJOR STREET LEFT TURNS 1, 4

Movement	v (pcph)	c_m (pcph)	$c_R = c_m - v$	LOS
1				
4				

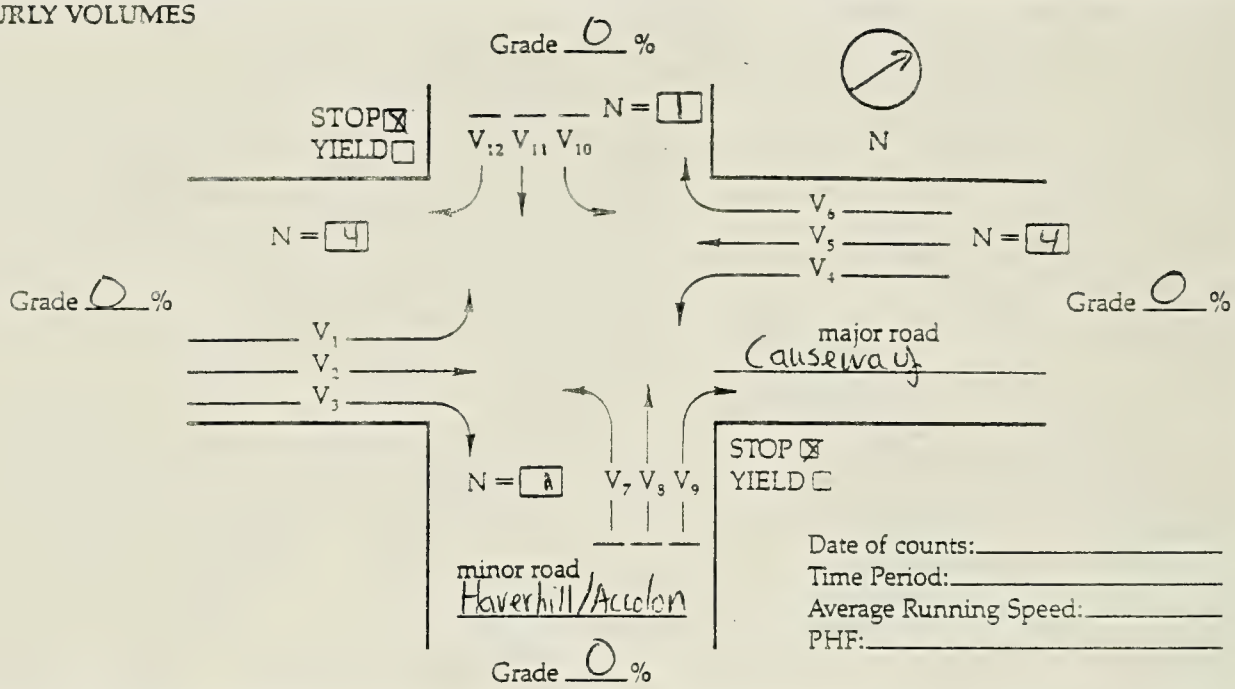
COMMENTS:

$C_{10} + C_{11}$ were set to arbitrary small numbers.

#6 WORKSHEET FOR FOUR-LEG INTERSECTIONS Page 1

Location: Causeway / Haverhill / Accolon Name: 2000 AM 8-HR No-Build

HOURLY VOLUMES

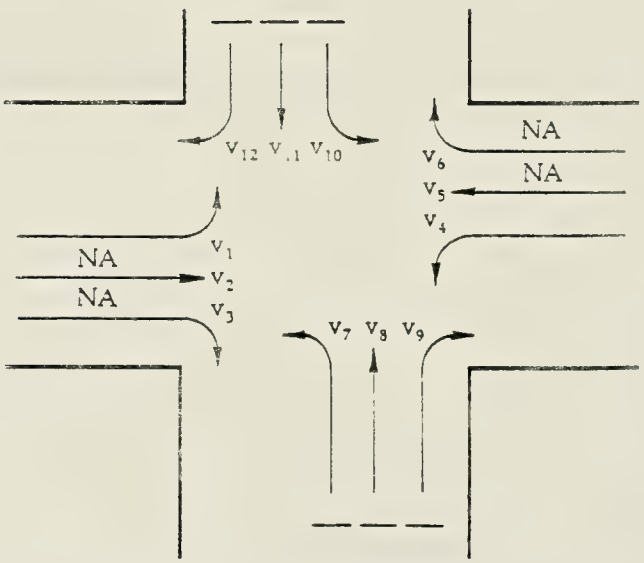


Date of counts:
Time Period:
Average Running Speed:
PHF:

VOLUME ADJUSTMENTS

Movement No.	1	2	3	4	5	6	7	8	9	10	11	12
Volume (vph)	25	435	663	183	864	222	0	0	0	1	1	10
Vol. (pcph), see Table 10-1	28			201			0	0	0	1	1	11

VOLUMES IN PCPH



No-Build 3-HR

#6 WORKSHEET FOR FOUR-LEG INTERSECTIONS 2000 AM

STEP 1: RT From Minor Street	⌜ V_9	⌟ V_{12}
Conflicting Flows, V_c	$1/2\,V_3 + V_2 = V_{c9}$ 332 + 435 = 767 vph	$1/2\,V_6 + V_5 = V_{c12}$ 111 + 864 = 975 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p9} = 445 pcph	c_{p12} = 340 pcph
Percent of c_p Utilized	$(v_9/c_{p9}) \times 100$ = 0 %	$(v_{12}/c_{p12}) \times 100$ = 3.2 %
Impedance Factor, P (Fig. 10-5)	P_9 = 1.0	P_{12} = 0.98
Actual Capacity, c_m	$c_{m9} = c_{p9}$ = 445 pcph	$c_{m12} = c_{p12}$ = 340 pcph

STEP 2: LT From Major Street	⌜ V_4	⌟ V_1
Conflicting Flows, V_c	$V_3 + V_2 = V_{c4}$ 663 + 435 = 1098 vph	$V_6 + V_5 = V_{c1}$ 222 + 864 = 1086 vph
Critical Gap, T_c (Tab. 10-2)	5.5 (sec)	5.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p4} = 280 pcph	c_{p1} = 285 pcph
Percent of c_p Utilized	$(v_4/c_{p4}) \times 100$ = 71.8 %	$(v_1/c_{p1}) \times 100$ = 9.8 %
Impedance Factor, P (Fig. 10-5)	P_4 = 0.34	P_1 = 0.94
Actual Capacity, c_m	$c_{m4} = c_{p4}$ = 280 pcph	$c_{m1} = c_{p1}$ = 285 pcph

STEP 3: TH From Minor Street	↑ V_8	↓ V_{11}
Conflicting Flows, V_c	$1/2V_3 + V_2 + V_1 + V_6 + V_5 + V_4 = V_{c8}$ 332 + 435 + 25 + 222 + 864 + 183 = 2061 vph	$1/2V_6 + V_5 + V_4 + V_3 + V_2 + V_1 = V_{c11}$ 111 + 864 + 183 + 663 + 435 + 25 = 2281 vph
Critical Gap, T_c (Tab. 10-2)	6.5 (sec)	6.5 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p8} = 55 pcph	c_{p11} = 45 pcph
Percent of c_p Utilized	$(v_8/c_{p8}) \times 100$ = 0 %	$(v_{11}/c_{p11}) \times 100$ = 2.2 %
Impedance Factor, P (Fig. 10-5)	P_8 = 1.0	P_{11} = 0.99
Actual Capacity, c_m	$c_{m8} = c_{p8} \times P_1 \times P_4$ 18 = 55 × .94 × .34 (pcph)	$c_{m11} = c_{p11} \times P_1 \times P_4$ 14 = 45 × .94 × .34 (pcph)

STEP 4: LT From Minor Street	⌝ V_7	⌞ V_{10}
Conflicting Flows, V_c	V_{c8} (step 3) $- V_{11} - V_{12} = V_{c7}$ 2061 − 1 − 10 = 2072 vph	V_{c11} (step 3) $+ V_8 + V_9 = V_{c10}$ 2281 + 0 + 0 = 2281 vph
Critical Gap, T_c (Tab. 10-2)	7.0 (sec)	7.0 (sec)
Potential Capacity, c_p (Fig. 10-3)	c_{p7} = 50 pcph	c_{p10} = 40 pcph
Actual Capacity, c_m	$c_{m7} = c_{p7} \times P_1 \times P_4 \times P_{11} \times P_{12}$ 16 = 50 × .94 × .34 × .94 × .98 (pcph)	$c_{m10} = c_{p10} \times P_4 \times P_1 \times P_8 \times P_9$ 13 = 40 × .34 × .94 × 1.0 × 1.0 (pcph)

SHARED-LANE CAPACITY 2000

8-MR

#6 AM

$$c_{SH} = \frac{v_i + v_j}{(v_i/c_{mi}) + (v_j/c_{mj})}$$ where 2 movements share a lane

$$c_{SH} = \frac{v_i + v_j + v_k}{(v_i/c_{mi}) + (v_j/c_{mj}) + (v_k/c_{mk})}$$ where 3 movements share a lane

MINOR STREET APPROACH MOVEMENTS 7, 8, 9 Haverhill St.

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
7	0				
8	0				
9	0				

MINOR STREET APPROACH MOVEMENTS 10, 11, 12 Accolon Way

Movement	v(pcph)	c_m(pcph)	c_{SH}(pcph)	$c_R = c_{SH} - v$	LOS
10	1	13	72		
11	1	14	72		
12	11	340	72		

MAJOR STREET LEFT TURNS 1, 4

Movement	v (pcph)	c_m (pcph)	$c_R = c_m - v$	LOS
1				
4				

COMMENTS:

C. CAL3QHC MODEL OUTPUT

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#1) RUN: 1990 EXISTING 1-HR AM LEVERETT CIRCLE

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG
1. STORROW DR EB FF	-17.	-17.	-1017.	-17.	1000.	270.	AG	3260.	28.4	0.0	18.2	0.00	0.(
2. STORROW DR WB FF	-17.	11.	-1017.	11.	1000.	270.	AG	1440.	28.4	0.0	15.1	0.00	0.(
3. LEVER CIR/NASH ST FF	-17.	8.	250.	8.	267.	90.	AG	965.	49.9	0.0	12.1	0.00	0.(
4. LEVER CIR/NASH ST FF	250.	8.	250.	-305.	313.	180.	AG	965.	49.9	0.0	12.1	0.00	0.(
5. LEVERETT CIRC SB FF	-17.	-17.	-17.	10.	27.	360.	AG	1180.	49.9	0.0	15.1	0.00	0.(
6. O'BRIEN HWY SB FF	-17.	10.	-17.	40.	30.	360.	AG	2140.	33.3	0.0	15.1	0.00	0.(
7. O'BRIEN HWY SB FF	-15.	40.	-15.	983.	943.	360.	AG	2140.	33.3	0.0	15.1	0.00	0.(
8. TO I-93 ON-RAMP FF	-17.	-17.	436.	-228.	500.	115.	AG	2950.	49.9	0.0	15.1	0.00	0.(
9. TO MARTHA ROAD FF	-17.	-17.	305.	-305.	432.	132.	AG	1025.	49.9	0.0	15.1	0.00	0.(
10. LEVERETT CIRC NB FF	26.	-27.	26.	11.	38.	360.	AG	485.	49.9	0.0	12.1	0.00	0.(
11. LEVERETT TO O'BRI FF	11.	12.	-10.	30.	27.	310.	AG	995.	49.9	0.0	13.6	0.00	0.(
12. O'BRIEN HWY NB FF	-7.	12.	-7.	1012.	1000.	360.	AG	995.	33.3	0.0	13.6	0.00	0.(
13. STORROW DR EB Q	-23.	-17.	-289.	-17.	266.	270.	AG	4267.	100.0	0.0	18.2	1.09	44.4
14. LEVERETT CIRC SB QUE	-14.	-9.	-14.	0.	9.	360.	AG	998.	100.0	0.0	9.1	0.00	0.(
15. LEVERETT CIRC SB QUE	-17.	-9.	-17.	0.	9.	360.	AG	998.	100.0	0.0	9.1	0.00	0.(
16. LEVERETT CIRC SB QUE	-20.	-9.	-20.	0.	9.	360.	AG	998.	100.0	0.0	9.1	0.00	0.(
17. LEVERETT CIRC WB Q	-8.	8.	-2.	8.	6.	90.	AG	1583.	100.0	0.0	12.1	0.23	1.(
18. O'BRIEN HWY THRU Q	-15.	15.	-15.	58.	43.	360.	AG	2547.	100.0	0.0	12.1	0.93	7.1

WARNING: THE LENGTH (43. m) OF THE QUEUE LINK # 18 IS GREATER THAN THE LENGTH (6. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. POLICE DEPT	-26.	30.	1.8
2. SCIENCE PRK GRN LINE	15.	-5.	1.8
3. CHARLES RIVER PARK	-38.	-30.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#1) RUN: 1990 EXISTING 1-HR AM LEVERETT CIRCLE

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3
0.	10.0	8.2	21.3
10.	12.6	7.0	22.6
20.	14.2	6.6	22.6
30.	15.1	6.5	21.9
40.	15.3	6.7	20.2
50.	15.3	6.9	18.2
60.	14.9	7.0	15.7
70.	14.5	7.0	13.7
80.	14.9	6.9	12.2
90.	15.7	6.7	10.6
100.	16.4	6.5	10.0
110.	17.0	7.2	9.2
120.	18.4	8.5	7.8
130.	18.9	9.5	6.4
140.	18.4	9.7	5.4
150.	17.1	9.4	5.1
160.	15.4	9.1	5.0
170.	13.9	8.7	5.0
180.	12.9	8.4	5.0
190.	12.2	8.3	5.0
200.	11.5	8.3	5.0
210.	11.8	8.3	5.0
220.	12.2	8.6	5.0
230.	12.6	9.7	5.1
240.	12.7	12.1	5.4
250.	12.5	15.7	6.9
260.	11.0	19.4	11.3
270.	8.2	19.2	18.3
280.	6.1	15.1	23.9
290.	5.1	11.4	24.4
300.	5.0	10.6	22.9
310.	5.0	11.0	21.2
320.	5.0	11.7	20.0
330.	5.1	11.4	19.1
340.	5.7	10.5	18.6
350.	7.2	9.5	19.4
360.	10.0	8.2	21.3
MAX.	18.9 130 DEGR.	19.4 260 DEGR.	24.4 290 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE
0 -360	18.9	130	19.4	260	24.4	290

JOB: CAL3QHC NEW BOSTON GARDEN (#1) RUN: 1990 EXISTING 8-HR AM LEVERETT CIRCLE

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG
1. STORROW DR EB FF	-17.	-17.	-1017.	-17.	1000.	270.	AG	2575.	14.8	0.0	18.2	0.00	0.
2. STORROW DR WB FF	-17.	11.	-1017.	11.	1000.	270.	AG	1138.	14.8	0.0	15.1	0.00	0.
3. LEVER CIR/NASH ST FF	-17.	8.	250.	8.	267.	90.	AG	762.	23.8	0.0	12.1	0.00	0.
4. LEVER CIR/NASH ST FF	250.	8.	250.	-305.	313.	180.	AG	762.	23.8	0.0	15.1	0.00	0.
5. LEVERETT CIRC SB FF	-17.	-17.	-17.	10.	27.	360.	AG	932.	23.8	0.0	15.1	0.00	0.
6. O'BRIEN HWY SB FF	-17.	10.	-17.	40.	30.	360.	AG	1690.	19.7	0.0	15.1	0.00	0.
7. O'BRIEN HWY SB FF	-15.	40.	-15.	983.	943.	360.	AG	1690.	19.7	0.0	15.1	0.00	0.
8. TO I-93 ON-RAMP FF	-17.	-17.	436.	-228.	500.	115.	AG	2331.	23.8	0.0	15.1	0.00	0.
9. TO MARTHA ROAD FF	-17.	-17.	305.	-305.	432.	132.	AG	810.	23.8	0.0	15.1	0.00	0.
10. LEVERETT CIRC NB FF	26.	-27.	26.	11.	38.	360.	AG	383.	23.8	0.0	12.1	0.00	0.
11. LEVERETT TO O'BRI FF	11.	12.	-10.	30.	27.	310.	AG	786.	23.8	0.0	13.6	0.00	0.
12. O'BRIEN HWY NB FF	-7.	12.	-7.	1012.	1000.	360.	AG	786.	19.7	0.0	13.6	0.00	0.
13. STORROW DR EB Q	-23.	-17.	-58.	-17.	35.	270.	AG	2581.	100.0	0.0	18.2	0.86	5.
14. LEVERETT CIRC SB Q	-14.	-9.	-14.	0.	9.	360.	AG	604.	100.0	0.0	9.1	0.00	0.
15. LEVERETT CIRC SB Q	-17.	-9.	-17.	0.	9.	360.	AG	604.	100.0	0.0	9.1	0.00	0.
16. LEVERETT CIRC SB Q	-20.	-9.	-20.	0.	9.	360.	AG	604.	100.0	0.0	9.1	0.00	0.
17. LEVERETT CIRC WB Q	-8.	8.	-4.	8.	5.	90.	AG	957.	100.0	0.0	12.1	0.18	0.
18. O'BRIEN HWY THRU Q	-15.	15.	-15.	39.	23.	360.	AG	1540.	100.0	0.0	12.1	0.72	3.

WARNING: THE LENGTH (23. m) OF THE QUEUE LINK # 18 IS GREATER THAN THE LENGTH (5. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. POLICE DEPT	-26.	30.	1.8
2. SCIENCE PRK GRN LINE	15.	-5.	1.8
3. CHARLES RIVER PARK	-38.	-30.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#1) RUN: 1990 EXISTING 8-HR AM LEVERETT CIRCLE

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3
0.	4.6	4.2	11.9
10.	5.2	3.9	12.4
20.	5.4	3.5	12.3
30.	5.7	3.6	12.0
40.	6.0	3.6	11.1
50.	6.5	3.7	9.6
60.	7.1	3.7	8.3
70.	7.7	3.7	7.2
80.	8.3	3.7	6.0
90.	8.7	3.5	5.1
100.	8.9	3.6	4.9
110.	9.2	3.8	4.6
120.	9.9	4.4	4.1
130.	9.9	4.7	3.5
140.	9.4	4.7	3.1
150.	8.8	4.7	3.0
160.	8.0	4.4	3.0
170.	7.4	4.4	3.0
180.	7.0	4.3	3.0
190.	6.6	4.3	3.0
200.	6.1	4.2	3.0
210.	5.6	4.2	3.0
220.	5.1	4.4	3.0
230.	4.4	5.0	3.1
240.	4.0	5.9	3.1
250.	3.9	7.1	3.3
260.	4.0	7.8	3.9
270.	3.6	7.6	5.0
280.	3.2	6.4	6.6
290.	3.0	5.7	7.9
300.	3.0	5.6	8.8
310.	3.0	5.7	9.6
320.	3.0	5.7	10.2
330.	3.0	5.4	10.3
340.	3.2	5.0	10.4
350.	3.8	4.7	11.0
360.	4.6	4.2	11.9
MAX.	9.9 120 DEGR.	7.8 260 DEGR.	12.4 10 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE
0 -360	9.9	120	7.8	260	12.4	10

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#3) RUN: 1990 EXISTING 1-HR PM COTTING/LOMASNEY

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M

Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. LOMASNEY SB FREE FL	0.	0.	-1000.	0.	1000.	270.	AG	710.	40.0	0.0	15.1	0.00	0.0
2. LOMASNEY NB FREE FL	0.	0.	1000.	0.	1000.	90.	AG	1680.	40.0	0.0	15.1	0.00	0.0
3. COTTING WAY FREE FL	-4.	0.	-4.	1000.	1000.	360.	AG	1150.	40.0	0.0	15.1	0.00	0.0
4. GARAGE ENTRANCE FF	-9.	0.	-9.	-12.	12.	180.	AG	45.	40.0	0.0	12.1	0.00	0.0
5. RAMP T/F LEVER I-93	-61.	30.	-61.	335.	305.	360.	BR	5905.	40.0	7.6	24.3	0.00	0.0
6. RAMP T/F LEVER I-93	-61.	30.	-276.	-185.	305.	225.	BR	5905.	40.0	7.6	24.3	0.00	0.0
7. GARAGE EXIT RIGHT Q	2.	0.	2.	-11.	11.	180.	AG	272.	100.0	0.0	10.6	0.19	1.8
8. GARAGE EXIT THRU Q	-2.	0.	-2.	-202.	202.	180.	AG	2065.	100.0	0.0	10.6	1.56	33.7

WARNING: THE LENGTH (202. m) OF THE QUEUE LINK # 8 IS GREATER THAN THE LENGTH (11. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. TICKET BOOTH	2.	16.	1.8
2. BUSINESS	24.	8.	1.8
3. GSA BUILDING	23.	26.	1.8

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3
0.	8.6	6.0	6.0
10.	7.2	5.3	5.3
20.	6.1	5.1	5.0
30.	5.6	5.1	5.0
40.	5.4	5.2	5.0
50.	5.3	5.3	5.0
60.	5.2	5.4	5.0
70.	5.3	5.9	5.1
80.	5.8	7.1	5.4
90.	6.7	8.5	6.0
100.	7.2	8.9	6.4
110.	7.1	8.4	6.4
120.	7.1	8.0	6.3
130.	7.0	7.6	6.2
140.	7.0	7.4	6.1
150.	7.6	7.1	6.1
160.	9.2	7.1	6.2
170.	12.0	7.6	6.7
180.	14.1	8.8	7.8
190.	13.8	9.9	9.1
200.	12.0	10.5	9.6
210.	9.9	10.8	9.2
220.	8.8	10.9	8.7
230.	8.9	11.5	8.7
240.	9.8	12.0	9.0
250.	10.0	12.1	9.1
260.	9.8	11.4	8.6
270.	9.4	10.5	8.1
280.	8.8	9.0	7.7
290.	8.5	8.1	7.4
300.	8.6	7.8	7.5
310.	8.8	7.7	7.6
320.	9.2	7.9	7.7
330.	9.6	7.9	7.8
340.	9.9	7.6	7.6
350.	9.5	6.8	6.8
360.	8.6	6.0	6.0
MAX.	14.1 180 DEGR.	12.1 250 DEGR.	9.6 200 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE
0 -360	14.1	180	12.1	250	9.6	200

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CALQ3HC NEW BOSTON GARDEN (#3) RUN: 1990 EXISTING 8-HR PM COTTING/LOMASNEY

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVC
1. LOMASNEY SB FREE FL	0.	0.	-1000.	0.	1000.	270.	AG	562.	23.8	0.0	15.1	0.00	0.
2. LOMASNEY NB FREE FL	0.	0.	1000.	0.	1000.	90.	AG	1327.	23.8	0.0	15.1	0.00	0.
3. COTTING WAY FREE FL	-4.	0.	-4.	1000.	1000.	360.	AG	909.	23.8	0.0	15.1	0.00	0.
4. RAMP T/F LEVER I-93	-61.	30.	-61.	335.	305.	360.	BR	4665.	19.7	7.6	24.3	0.00	0.
5. RAMP T/F LEVER I-93	-61.	30.	-276.	-185.	305.	225.	BR	4665.	19.7	7.6	24.3	0.00	0.
6. GARAGE EXIT RIGHT Q	2.	0.	2.	-11.	11.	180.	AG	111.	100.0	0.0	10.6	0.14	1.
7. GARAGE EXIT THRU Q	-2.	0.	-2.	-12.	12.	180.	AG	1249.	100.0	0.0	10.6	0.67	2.

WARNING: THE LENGTH (12. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (11. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. TICKET BOOTH	2.	16.	1.8
2. BUSINESS	24.	8.	1.8
3. GSA BUILDING	23.	26.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#3) RUN: 1990 EXISTING 8-HR PM COTTING/LOMASNEY

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3
0.	4.6	3.4	3.4
10.	4.0	3.1	3.1
20.	3.5	3.0	3.0
30.	3.3	3.1	3.0
40.	3.2	3.1	3.0
50.	3.1	3.1	3.0
60.	3.1	3.2	3.0
70.	3.2	3.4	3.0
80.	3.3	4.0	3.2
90.	3.7	4.7	3.5
100.	4.0	4.8	3.7
110.	4.1	4.6	3.7
120.	4.0	4.4	3.6
130.	3.9	4.2	3.6
140.	3.9	4.1	3.5
150.	4.0	4.0	3.5
160.	4.4	4.0	3.5
170.	5.0	4.0	3.5
180.	5.4	4.1	3.5
190.	5.5	4.0	3.6
200.	5.4	3.9	3.8
210.	4.9	4.2	4.1
220.	4.6	4.7	4.1
230.	4.7	5.3	4.5
240.	5.0	5.9	4.6
250.	5.1	6.1	4.6
260.	5.1	5.9	4.5
270.	4.9	5.5	4.3
280.	4.6	4.8	4.1
290.	4.5	4.3	4.0
300.	4.5	4.1	4.0
310.	4.6	4.2	4.1
320.	4.8	4.2	4.2
330.	5.0	4.3	4.2
340.	5.1	4.0	4.1
350.	5.0	3.8	3.8
360.	4.6	3.4	3.4
MAX.	5.5 190 DEGR.	6.1 250 DEGR.	4.6 240 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE
0 -360	5.5	190	6.1	250	4.6	240

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1990 EXISTING 1-HR PM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	1681.	40.0	0.0	19.4	0.00	0.
2. CAUSEWAY ST FF	-9.	9.	757.	652.	1000.	50.	AG	1845.	49.9	0.0	19.4	0.00	0.
3. MERRIMAC ST FF	0.	-18.	1000.	-18.	1000.	90.	AG	430.	49.9	0.0	16.7	0.00	0.
4. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1415.	40.0	0.0	24.3	0.00	0.
5. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	5905.	40.0	7.6	24.3	0.00	0.
6. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	5905.	40.0	7.6	24.3	0.00	0.
7. LOMASNEY WAY THRU Q	-21.	9.	-47.	29.	33.	308.	AG	1262.	100.0	0.0	9.1	0.68	5.
8. LOMASNEY WAY LEFT Q	-18.	12.	-34.	24.	19.	308.	AG	1262.	100.0	0.0	9.1	0.43	3.
9. CAUSEWAY THRU/LEFT Q	-2.	23.	19.	40.	26.	50.	AG	1354.	100.0	0.0	9.1	0.59	4.
10. CAUSEWAY RIGHT Q	-3.	26.	310.	288.	409.	50.	AG	1216.	100.0	0.0	9.1	1.16	68.
11. STANIFORD ST Q	5.	-26.	5.	-63.	37.	180.	AG	2524.	100.0	0.0	12.1	0.73	6.

WARNING: THE LENGTH (26. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (19. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (409. m) OF THE QUEUE LINK # 10 IS GREATER THAN THE LENGTH (26. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	40.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1990 EXISTING 1-HR PM CAUSE/LOM/STAN/MER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	6.0	13.4	9.1	8.1
10.	5.7	13.3	8.6	7.7
20.	5.3	13.0	8.4	7.4
30.	5.5	13.1	8.3	7.4
40.	6.7	13.2	8.1	7.1
50.	9.0	11.7	6.9	6.3
60.	10.6	8.7	5.6	5.7
70.	11.0	6.5	5.2	5.4
80.	10.9	5.7	5.4	5.4
90.	11.4	5.7	5.8	5.3
100.	11.5	5.7	6.0	5.1
110.	11.8	5.6	5.9	5.0
120.	11.6	5.5	5.8	5.0
130.	11.4	5.3	5.7	5.0
140.	11.0	5.3	5.6	5.0
150.	10.9	5.5	5.6	5.0
160.	10.8	6.2	5.7	5.1
170.	11.0	7.7	6.3	5.4
180.	10.4	9.3	7.6	6.0
190.	9.3	9.8	9.1	6.4
200.	8.6	9.0	10.2	6.7
210.	8.6	8.2	10.2	7.2
220.	8.8	7.8	9.5	7.9
230.	8.7	8.3	8.5	8.8
240.	8.3	8.8	7.5	9.6
250.	7.6	9.7	6.8	10.2
260.	7.1	10.6	6.7	10.5
270.	6.9	11.8	7.1	10.6
280.	7.3	12.8	8.2	10.8
290.	7.9	13.3	9.8	11.2
300.	8.0	13.6	11.0	11.9
310.	7.3	13.6	10.8	12.3
320.	6.5	13.4	10.1	11.7
330.	6.2	13.4	9.5	10.4
340.	6.0	13.1	9.6	9.2
350.	6.1	13.4	9.3	8.6
360.	6.0	13.4	9.1	8.1
MAX.	11.8 110 DEGR.	13.6 300 DEGR.	11.0 300 DEGR.	12.3 310 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	11.8	110	13.6	300	11.0	300	12.3	310

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1990 EXISTING 8-HR PM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	1660.	23.8	0.0	19.4	0.00	0.
2. CAUSEWAY ST FF	-9.	9.	757.	652.	1000.	50.	AG	1822.	23.8	0.0	19.4	0.00	0.
3. MERRIMAC ST FF	0.	-18.	1000.	-18.	1000.	90.	AG	425.	23.8	0.0	16.7	0.00	0.
4. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1398.	23.8	0.0	24.3	0.00	0.
5. RAMP T/F LEVER/I-93	-152.	152.	63.	368.	305.	45.	BR	4665.	19.7	7.6	24.3	0.00	0.
6. RAMP T/F LEVER/I-93	-152.	152.	-335.	152.	183.	270.	BR	4665.	19.7	7.6	24.3	0.00	0.
7. LOMASNEY WAY THRU Q	-21.	9.	-47.	29.	32.	308.	AG	763.	100.0	0.0	9.1	0.67	5.
8. LOMASNEY WAY LEFT Q	-18.	12.	-33.	24.	19.	308.	AG	763.	100.0	0.0	9.1	0.42	3.
9. CAUSEWAY THRU/LEFT Q	-2.	23.	18.	39.	26.	50.	AG	819.	100.0	0.0	9.1	0.59	4.
10. CAUSEWAY RIGHT Q	-3.	26.	287.	268.	378.	50.	AG	735.	100.0	0.0	9.1	1.14	62.
11. STANIFORD ST Q	5.	-26.	5.	-62.	36.	180.	AG	1526.	100.0	0.0	12.1	0.72	6.

WARNING: THE LENGTH (26. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (19. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (378. m) OF THE QUEUE LINK # 10 IS GREATER THAN THE LENGTH (26. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	40.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1990 EXISTING 8-HR PM CAUSE/LOM/STAN/MER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	3.4	7.5	5.1	4.5
10.	3.3	7.4	4.7	4.4
20.	3.1	7.3	4.7	4.3
30.	3.3	7.3	4.8	4.3
40.	3.9	7.2	4.6	4.1
50.	5.1	6.3	4.0	3.7
60.	6.1	4.9	3.3	3.3
70.	6.3	3.7	3.1	3.2
80.	6.3	3.3	3.2	3.2
90.	6.5	3.3	3.4	3.1
100.	6.6	3.4	3.4	3.1
110.	6.7	3.3	3.4	3.0
120.	6.7	3.3	3.4	3.0
130.	6.6	3.2	3.3	3.0
140.	6.5	3.2	3.3	3.0
150.	6.3	3.1	3.3	3.0
160.	6.3	3.6	3.4	3.1
170.	6.2	4.5	3.7	3.3
180.	6.1	5.5	4.5	3.6
190.	5.4	5.7	5.4	3.8
200.	5.1	5.3	6.0	4.0
210.	5.1	4.8	6.0	4.2
220.	5.3	4.5	5.7	4.6
230.	5.2	4.7	5.0	5.2
240.	4.9	5.1	4.4	5.7
250.	4.5	5.5	4.1	6.0
260.	4.3	6.0	3.8	6.2
270.	4.0	6.6	4.2	6.3
280.	4.1	7.0	4.7	6.3
290.	4.2	7.4	5.6	6.4
300.	4.4	7.4	6.1	6.8
310.	4.1	7.5	6.0	7.2
320.	3.6	7.4	5.5	6.8
330.	3.4	7.4	5.2	6.0
340.	3.4	7.4	5.3	5.3
350.	3.4	7.6	5.2	4.9
360.	3.4	7.5	5.1	4.5
MAX.	6.7 110 DEGR.	7.6 350 DEGR.	6.1 300 DEGR.	7.2 310 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	6.7	110	7.6	350	6.1	300	7.2	310

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 1990 EXISTING 1-HR PM CAUSEWAY/CANAL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAUSEWAY N FF	0.	0.	0.	1000.	1000.	360.	AG	1666.	49.9	0.0	28.9	0.00	0.0
2. CAUSEWAY S FF	0.	0.	0.	-1000.	1000.	180.	AG	1666.	49.9	0.0	28.9	0.00	0.0
3. CANAL ST FF	0.	0.	1000.	0.	1000.	90.	AG	285.	40.0	0.0	12.1	0.00	0.0
4. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-152.	152.	180.	BR	5905.	40.0	7.6	24.3	0.00	0.0
5. RAMPS T/F LEVER/I-93	-179.	0.	-179.	152.	152.	360.	BR	5905.	40.0	7.6	24.3	0.00	0.0
6. I-93 NB/SB	0.	152.	-183.	152.	183.	270.	BR	6500.	33.3	7.6	32.6	0.00	0.0
7. I-93 NB/SB	0.	152.	305.	152.	305.	90.	BR	6500.	33.3	7.6	32.6	0.00	0.0
8. NB I-93 OFF-RAMP	0.	152.	-183.	152.	183.	270.	BR	700.	40.0	7.6	13.6	0.00	0.0
9. CANAL ST Q	18.	2.	118.	2.	100.	90.	AG	140.	70.0	0.0	12.1	0.00	0.0

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SPORTS CAFE	-15.	-6.	1.8
2. T STATION	15.	11.	1.8
3. 125 CAUSEWAY	14.	-12.	1.8
4. FUTURE PORTAL ENTRAN	-23.	0.	1.8

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	9.3	9.3	9.9	8.0
10.	9.7	7.8	8.2	8.7
20.	9.3	6.8	7.0	8.5
30.	9.0	6.5	6.7	8.3
40.	8.7	6.4	6.6	8.1
50.	8.5	6.4	6.5	8.1
60.	8.3	6.0	6.4	7.7
70.	8.0	5.6	6.0	7.5
80.	7.9	5.4	5.7	7.1
90.	7.7	5.5	5.4	7.2
100.	7.5	5.7	5.2	7.1
110.	7.1	5.8	5.1	6.8
120.	7.1	5.7	5.2	6.9
130.	7.3	5.6	5.2	6.9
140.	7.6	5.5	5.3	7.0
150.	7.9	5.6	5.4	7.2
160.	8.3	6.0	5.8	7.4
170.	8.7	7.0	6.9	7.5
180.	8.1	8.6	8.3	6.8
190.	6.7	9.0	8.8	5.8
200.	5.6	8.8	8.5	5.2
210.	5.4	8.2	7.9	5.1
220.	5.5	8.1	7.7	5.4
230.	5.9	8.1	7.8	5.8
240.	6.1	8.4	7.9	6.0
250.	6.1	8.4	8.0	6.2
260.	6.1	8.2	8.0	6.1
270.	6.1	8.2	8.3	6.2
280.	6.1	8.0	8.2	6.1
290.	6.1	8.1	8.5	6.2
300.	6.2	8.5	8.6	6.2
310.	6.4	8.7	9.1	6.4
320.	6.3	8.9	9.1	6.4
330.	6.4	9.2	9.4	6.3
340.	6.6	9.6	9.8	6.3
350.	7.8	9.9	10.4	7.0
360.	9.3	9.3	9.9	8.0
MAX.	9.7 10 DEGR.	9.9 350 DEGR.	10.4 350 DEGR.	8.7 10 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	9.7	10	9.9	350	10.4	350	8.7	10

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 1990 EXISTING 8-HR PM CAUSEWAY/CANAL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAUSEWAY N FF	0.	0.	0.	1000.	1000.	360.	AG	1317.	23.8	0.0	28.9	0.00	0.0
2. CAUSEWAY S FF	0.	0.	0.	-1000.	1000.	180.	AG	1317.	23.8	0.0	28.9	0.00	0.0
3. CANAL ST FF	0.	0.	1000.	0.	1000.	90.	AG	225.	23.8	0.0	12.1	0.00	0.0
4. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-152.	152.	180.	BR	4665.	19.7	7.6	24.3	0.00	0.0
5. RAMPS T/F LEVER/I-93	-179.	0.	-179.	152.	152.	360.	BR	4665.	19.7	7.6	24.3	0.00	0.0
6. I-93 NB/SB	0.	152.	-183.	152.	183.	270.	BR	5135.	13.3	7.6	32.6	0.00	0.0
7. I-93 NB/SB	0.	152.	305.	152.	305.	90.	BR	5135.	13.3	7.6	32.6	0.00	0.0
8. NB I-93 OFF-RAMP	0.	152.	-183.	152.	183.	270.	BR	553.	19.7	7.6	13.6	0.00	0.0
9. CANAL ST Q	18.	2.	118.	2.	100.	90.	AG	110.	124.0	0.0	12.1	0.00	0.0

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SPORTS CAFE	-15.	-6.	1.8
2. T STATION	15.	11.	1.8
3. 125 CAUSEWAY	14.	-12.	1.8
4. FUTURE PORTAL ENTRAN	-23.	0.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 1990 EXISTING 8-HR PM CAUSEWAY/CANAL

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	4.5	4.6	4.8	4.1
10.	4.7	3.9	4.2	4.3
20.	4.6	3.6	3.8	4.3
30.	4.4	3.5	3.6	4.1
40.	4.3	3.5	3.7	4.1
50.	4.2	3.5	3.8	4.1
60.	4.3	3.3	3.8	3.9
70.	4.3	3.1	3.7	4.0
80.	4.2	3.2	3.5	3.9
90.	4.3	3.5	3.3	4.0
100.	4.0	3.6	3.2	3.9
110.	3.8	3.7	3.0	3.8
120.	3.8	3.7	3.1	3.6
130.	3.9	3.6	3.1	3.7
140.	4.0	3.4	3.1	3.8
150.	4.1	3.4	3.1	3.8
160.	4.2	3.5	3.3	3.9
170.	4.4	3.9	3.7	3.9
180.	4.2	4.4	4.3	3.7
190.	3.6	4.5	4.4	3.3
200.	3.2	4.4	4.3	3.1
210.	3.1	4.2	4.1	3.0
220.	3.2	4.2	4.0	3.2
230.	3.4	4.3	4.1	3.3
240.	3.4	4.3	4.1	3.4
250.	3.4	4.2	4.1	3.4
260.	3.5	4.3	4.1	3.4
270.	3.4	4.1	4.2	3.4
280.	3.4	4.1	4.2	3.4
290.	3.4	4.1	4.2	3.4
300.	3.5	4.2	4.4	3.5
310.	3.5	4.4	4.4	3.5
320.	3.4	4.4	4.6	3.5
330.	3.4	4.5	4.5	3.3
340.	3.5	4.6	4.8	3.4
350.	3.9	4.7	4.9	3.6
360.	4.5	4.6	4.8	4.1
MAX.	4.7 10 DEGR.	4.7 350 DEGR.	4.9 350 DEGR.	4.3 10 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	4.7	10	4.7	350	4.9	350	4.3	10

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 1990 EXISTING 1-HR PM CAUSE/HAVER/ACCOL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. ACCOLON WAY FF	0.	0.	-1000.	0.	1000.	270.	AG	170.	49.9	0.0	13.6	0.00	0.0
2. CAUSEWAY ST E FF	0.	0.	0.	1000.	1000.	360.	AG	1655.	49.9	0.0	28.1	0.00	0.0
3. I-93 RAMP FF	0.	21.	1000.	21.	1000.	90.	AG	355.	49.9	0.0	10.6	0.00	0.0
4. I-93 RAMP FF	8.	8.	22.	21.	18.	48.	AG	295.	49.9	0.0	10.3	0.00	0.0
5. HAVERHILL ST FF	0.	0.	1000.	0.	1000.	90.	AG	140.	40.0	0.0	13.6	0.00	0.0
6. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-213.	213.	180.	BR	5905.	40.0	7.6	24.3	0.00	0.0
7. RAMPS T/F LEVER/I-93	-179.	0.	-179.	91.	91.	360.	BR	5905.	40.0	7.6	24.3	0.00	0.0
8. I-93 NB/SB	0.	91.	-183.	91.	183.	270.	BR	6500.	33.3	7.6	32.6	0.00	0.0
9. I-93 NB/SB	0.	0.	305.	91.	318.	73.	BR	6500.	33.3	7.6	32.6	0.00	0.0
10. NB I-93 OFF-RAMP	0.	91.	-183.	91.	183.	270.	BR	700.	40.0	7.6	13.6	0.00	0.0
11. CAUSEWAY ST W FF	0.	0.	0.	-1000.	1000.	180.	AG	1665.	49.9	0.0	28.1	0.00	0.0
12. HAVERHILL ST Q	12.	2.	22.	2.	10.	90.	AG	694.	100.0	0.0	9.8	0.36	1.7
13. ACCOLON WAY Q	-16.	-2.	-292.	-2.	276.	270.	AG	2065.	100.0	0.0	9.8	2.16	46.0

WARNING: THE LENGTH (276. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (10. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SHOE REPAIR SHOP	-16.	-14.	1.8
2. GARDEN DELI	-18.	8.	1.8
3. T STATION	14.	-27.	1.8
4. PARK RECEPTOR	-16.	23.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 1990 EXISTING 1-HR PM CAUSE/HAVER/ACCOL

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	11.4	8.9	11.5	9.5
10.	11.0	9.2	10.0	9.6
20.	9.9	8.4	8.9	8.9
30.	9.6	7.8	8.7	8.0
40.	10.1	7.6	8.9	7.6
50.	11.2	8.0	9.3	7.4
60.	12.9	9.6	9.2	7.9
70.	13.2	11.8	8.1	9.4
80.	12.0	13.2	6.5	11.3
90.	9.7	12.9	5.5	12.3
100.	8.0	11.4	5.0	11.6
110.	7.2	10.0	5.1	10.9
120.	7.1	9.2	5.1	10.3
130.	7.3	8.6	5.2	9.8
140.	7.5	8.4	5.2	9.4
150.	7.8	8.8	5.3	9.0
160.	8.2	9.7	5.7	9.0
170.	8.5	11.0	6.8	9.5
180.	7.9	11.3	8.3	9.5
190.	6.5	10.9	8.8	8.7
200.	5.6	10.8	8.5	8.2
210.	5.5	11.3	8.0	8.8
220.	5.9	11.9	7.9	9.4
230.	6.1	12.8	8.1	9.8
240.	6.3	13.5	8.1	10.0
250.	6.7	14.0	8.1	10.0
260.	8.3	13.9	8.8	9.5
270.	10.7	11.9	10.4	8.2
280.	12.6	9.2	11.5	7.3
290.	12.9	7.6	11.7	7.0
300.	12.9	6.9	11.5	7.3
310.	12.4	7.1	10.8	7.3
320.	12.0	7.0	10.5	7.3
330.	11.5	6.9	10.7	7.2
340.	11.2	7.1	11.4	7.5
350.	11.3	7.9	12.1	8.4
360.	11.4	8.9	11.5	9.5
MAX.	13.2 70 DEGR.	14.0 250 DEGR.	12.1 350 DEGR.	12.3 90 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	13.2	70	14.0	250	12.1	350	12.3	90

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 1990 EXISTING 8-HR PM CAUSE/HAVER/ACCOL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M

Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG
1. ACCOLON WAY FF	0.	0.	-1000.	0.	1000.	270.	AG	134.	23.8	0.0	13.6	0.00	0.(
2. CAUSEWAY ST E FF	0.	0.	0.	1000.	1000.	360.	AG	1308.	23.8	0.0	28.1	0.00	0.(
3. I-93 RAMP FF	0.	21.	1000.	21.	1000.	90.	AG	281.	23.8	0.0	10.6	0.00	0.(
4. I-93 RAMP FF	8.	8.	22.	21.	18.	48.	AG	234.	23.8	0.0	10.3	0.00	0.(
5. HAVERHILL ST FF	0.	0.	1000.	0.	1000.	90.	AG	110.	23.8	0.0	13.6	0.00	0.(
6. CAUSEWAY ST W FF	0.	0.	0.	-1000.	1000.	180.	AG	1315.	23.8	0.0	28.1	0.00	0.(
7. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-213.	213.	180.	BR	4665.	19.7	7.6	24.3	0.00	0.(
8. RAMPS T/F LEVER/I-93	-179.	0.	-179.	91.	91.	360.	BR	4665.	19.7	7.6	24.3	0.00	0.(
9. I-93 NB/SB	0.	91.	-183.	91.	183	270.	BR	5135.	13.3	7.6	32.6	0.00	0.(
10. I-93 NB/SB	0.	91.	305.	91.	305.	90.	BR	5135.	13.3	7.6	32.6	0.00	0.(
11. NB I-93 OFF-RAMP	0.	91.	-183.	91.	183.	270.	BR	553.	19.7	7.6	13.6	0.00	0.(
12. HAVERHILL ST Q	12.	2.	22.	2.	10.	90.	AG	173.	100.0	0.0	9.8	0.19	1.7
13. ACCOLON WAY Q	-16.	-2.	-136.	-2.	120.	270.	AG	1249.	100.0	0.0	9.8	1.00	20.(

WARNING: THE LENGTH (120. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (10. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SHOE REPAIR SHOP	-16.	-14.	1.8
2. GARDEN DELI	-18.	8.	1.8
3. T STATION	14.	-27.	1.8
4. PARK RECEPTOR	-16.	23.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 1990 EXISTING 8-HR PM CAUSE/HAVER/ACCOL

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	5.9	4.5	4.8	4.8
10.	5.7	4.7	4.3	4.8
20.	5.1	4.5	3.8	4.8
30.	4.8	4.5	3.6	4.6
40.	4.6	4.4	3.6	4.5
50.	4.5	4.5	3.6	4.6
60.	4.7	4.5	3.6	4.5
70.	4.5	4.4	3.4	4.4
80.	4.2	4.3	3.3	4.4
90.	4.0	4.3	3.1	4.3
100.	3.8	4.2	3.0	4.1
110.	3.8	4.0	3.0	4.0
120.	3.8	3.9	3.1	4.0
130.	3.9	4.0	3.1	4.0
140.	3.9	4.3	3.1	3.9
150.	4.0	4.5	3.1	4.1
160.	4.2	5.2	3.3	4.4
170.	4.3	5.8	3.7	5.0
180.	4.1	6.2	4.2	5.0
190.	3.6	6.2	4.4	4.9
200.	3.2	6.3	4.3	4.9
210.	3.2	6.6	4.1	5.1
220.	3.4	6.9	4.1	5.3
230.	3.5	7.4	4.2	5.5
240.	3.4	7.7	4.2	5.5
250.	3.6	7.9	4.2	5.4
260.	4.3	7.4	4.4	4.7
270.	5.6	6.2	5.0	4.1
280.	6.6	4.8	5.7	3.6
290.	7.1	3.9	6.1	3.7
300.	7.2	3.8	5.8	3.7
310.	7.1	3.7	5.5	3.8
320.	6.7	3.6	5.0	3.8
330.	6.5	3.7	4.8	3.8
340.	6.2	3.8	4.7	3.9
350.	6.1	4.1	4.9	4.2
360.	5.9	4.5	4.8	4.8
MAX.	7.2 300 DEGR.	7.9 250 DEGR.	6.1 290 DEGR.	5.5 230 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	7.2	300	7.9	250	6.1	290	5.5	230

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 1990 EXISTING 1-HR PM CAUSE/COM/END/WASH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAUSEWAY ST FF	0.	3.	-1000.	3.	1000.	270.	AG	1855.	40.0	0.0	22.8	0.00	0.0
2. WASHINGTON SOUTH FF	0.	0.	-574.	-819.	1000.	215.	AG	1870.	40.0	0.0	21.2	0.00	0.0
3. ENDICOTT ST FF	8.	0.	-22.	-249.	251.	187.	AG	125.	49.9	0.0	11.2	0.00	0.0
4. COMMERCIAL ST FF	0.	5.	1000.	5.	1000.	90.	AG	1695.	40.0	0.0	19.0	0.00	0.0
5. WASHINGTON NORTH FF	0.	0.	174.	985.	1000.	10.	AG	4415.	49.9	0.0	20.9	0.00	0.0
6. I-93 NB/SB	-171.	0.	-171.	183.	183.	360.	BR	6500.	33.3	7.6	32.6	0.00	0.0
7. I-93 NB/SB	-171.	0.	-171.	-305.	305.	180.	BR	6500.	33.3	7.6	32.6	0.00	0.0
8. NB I-93 OFF-RAMP	-171.	0.	-171.	183.	183.	360.	BR	700.	40.0	7.6	13.6	0.00	0.0
9. CAUSEWAY ST Q	-15.	-1.	-52.	-1.	37.	270.	AG	4418.	100.0	0.0	15.1	0.60	6.2
10. WASHINGTON N THRU Q	-4.	15.	5.	60.	46.	11.	AG	2490.	100.0	0.0	11.2	0.63	7.6
11. WASHINGTON N RIGHT Q	-8.	16.	0.	60.	45.	11.	AG	653.	100.0	0.0	8.6	0.70	7.4
12. WASHINGTON N LEFT Q	0.	15.	8.	56.	41.	11.	AG	1245.	100.0	0.0	8.6	0.58	6.9
13. COMMERCIAL ST THRU Q	14.	8.	1129.	8.	1115.	90.	AG	3522.	100.0	0.0	12.1	2.57	185.8
14. ENDICOTT ST THRU Q	6.	-13.	5.	-26.	13.	185.	AG	1245.	100.0	0.0	8.6	0.19	2.1
15. WASHINGTON S THRU Q	-4.	-10.	-36.	-57.	57.	215.	AG	2490.	100.0	0.0	11.2	0.74	9.5

WARNING: THE LENGTH (46. m) OF THE QUEUE LINK # 10 IS GREATER THAN THE LENGTH (37. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (1115. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (41. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (57. m) OF THE QUEUE LINK # 15 IS GREATER THAN THE LENGTH (13. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	15.	-6.	1.8
2. TELEPHONE	0.	-21.	1.8
3. DVA CLINIC	-49.	-10.	1.8
4. CAUSEWAY ST.BUILDNG	-19.	14.	1.8
5. NE CORNER PARK	20.	20.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 1990 EXISTING 1-HR PM CAUSE/COM/END/WASH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	22.2	22.7	19.3	7.4	13.7
10.	20.2	23.2	21.1	11.5	11.2
20.	17.1	19.9	23.0	15.5	7.8
30.	15.5	16.6	25.2	18.2	5.7
40.	15.5	15.5	27.4	19.5	5.1
50.	16.4	15.7	28.6	19.4	5.0
60.	17.4	16.4	29.2	19.0	5.2
70.	18.5	17.1	29.3	19.4	6.7
80.	19.3	17.2	29.1	23.0	11.1
90.	16.5	15.0	24.5	25.9	17.2
100.	10.6	11.3	16.8	23.4	20.5
110.	6.6	9.1	12.0	17.8	20.1
120.	5.4	8.0	10.5	13.9	18.6
130.	5.2	7.6	10.1	12.5	17.4
140.	5.1	7.1	9.6	12.6	16.4
150.	5.1	6.8	9.1	13.9	16.0
160.	5.0	6.5	8.1	15.9	15.6
170.	5.2	6.4	7.4	18.3	15.4
180.	5.5	6.1	6.9	20.3	15.6
190.	6.3	6.0	6.8	20.7	16.1
200.	7.9	7.2	7.2	20.8	17.5
210.	10.8	10.3	7.5	20.7	19.8
220.	13.8	13.9	7.1	20.2	20.8
230.	15.4	16.4	6.7	19.0	20.5
240.	15.4	16.9	6.5	17.5	20.2
250.	15.3	16.7	6.9	15.5	20.6
260.	16.5	16.8	7.8	13.2	20.4
270.	17.9	17.8	9.4	10.8	20.0
280.	18.4	19.7	10.4	8.5	19.0
290.	17.3	21.8	10.9	7.0	18.2
300.	15.9	22.8	11.2	6.6	17.9
310.	16.0	22.4	11.7	6.3	17.7
320.	16.7	20.1	12.2	5.9	17.5
330.	18.8	18.1	12.7	5.3	17.1
340.	20.7	18.2	14.0	5.1	16.0
350.	22.2	19.9	16.6	5.6	15.1
360.	22.2	22.7	19.3	7.4	13.7
MAX.	22.2 0 DEGR.	23.2 10 DEGR.	29.3 70 DEGR.	25.9 90 DEGR.	20.8 220 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	22.2	0	23.2	10	29.3	70	25.9	90	20.8	220

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 1990 EXISTING 8-HR PM CAUSE/COM/END/WASH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAUSEWAY ST FF	0.	3.	-1000.	3.	1000.	270.	AG	1466.	19.7	0.0	22.8	0.00	0.0
2. WASHINGTON SOUTH FF	0.	0.	-574.	-819.	1000.	215.	AG	1478.	19.7	0.0	21.2	0.00	0.0
3. ENDICOTT ST FF	8.	0.	-22.	-249.	251.	187.	AG	98.	23.8	0.0	11.2	0.00	0.0
4. COMMERCIAL ST FF	0.	5.	1000.	5.	1000.	90.	AG	1339.	19.7	0.0	19.0	0.00	0.0
5. WASHINGTON NORTH FF	0.	0.	174.	985.	1000.	10.	AG	3488.	23.8	0.0	20.9	0.00	0.0
6. I-93 NB/SB	-171.	0.	-171.	183.	183.	360.	BR	5135.	13.3	7.6	32.6	0.00	0.0
7. I-93 NB/SB	-171.	0.	-171.	-305.	305.	180.	BR	5135.	13.3	7.6	32.6	0.00	0.0
8. NB I-93 OFF-RAMP	-171.	0.	-171.	183.	183.	360.	BR	553.	19.7	7.6	13.6	0.00	0.0
9. CAUSEWAY ST QUEUE	-15.	-1.	-44.	-1.	28.	270.	AG	2672.	100.0	0.0	15.1	0.47	4.7
10. WASHING. SB THRU Q	-4.	15.	3.	49.	35.	11.	AG	1506.	100.0	0.0	11.2	0.50	5.8
11. WASHING. SB RIGHT Q	-8.	16.	118.	698.	693.	11.	AG	891.	100.0	0.0	8.6	1.42	115.6
12. WASHINGT. SB LEFT Q	0.	15.	6.	47.	32.	11.	AG	753.	100.0	0.0	8.6	0.46	5.3
13. COMMERCIAL ST THRU Q	14.	8.	765.	8.	751.	90.	AG	2130.	100.0	0.0	12.1	2.03	125.1
14. ENDICOTT ST THRU Q	6.	-13.	5.	-23.	10.	185.	AG	753.	100.0	0.0	8.6	0.15	1.7
15. WASHINGT. NB THRU Q	-4.	-10.	-28.	-45.	42.	215.	AG	1506.	100.0	0.0	11.2	0.59	7.0

WARNING: THE LENGTH (35. m) OF THE QUEUE LINK # 10 IS GREATER THAN THE LENGTH (28. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (693. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (35. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (751. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (32. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (42. m) OF THE QUEUE LINK # 15 IS GREATER THAN THE LENGTH (10. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	15.	-6.	1.8
2. TELEPHONE	0.	-21.	1.8
3. DVA CLINIC	-49.	-10.	1.8
4. CAUSEWAY ST.BUILDNG	-19.	14.	1.8
5. NE CORNER PARK	20.	20.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 1990 EXISTING 8-HR PM CAUSE/COM/END/WASH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	12.3	12.5	4.7	5.0	7.7
10.	11.3	12.7	6.8	7.7	6.3
20.	9.6	10.7	8.9	9.8	4.5
30.	8.9	8.9	11.1	11.1	3.4
40.	8.8	8.7	12.7	11.5	3.1
50.	9.3	9.0	14.0	11.5	3.0
60.	9.9	9.4	14.5	11.3	3.1
70.	10.5	9.7	14.8	11.2	4.0
80.	10.8	9.5	15.0	13.0	6.3
90.	9.0	8.0	12.6	14.1	9.7
100.	5.9	5.8	9.1	12.5	11.7
110.	3.7	4.3	6.3	9.3	11.7
120.	3.2	3.8	5.5	6.9	10.8
130.	3.1	3.6	5.1	6.2	10.2
140.	3.1	3.5	4.8	6.5	9.6
150.	3.0	3.4	4.3	7.2	9.3
160.	3.0	3.2	3.8	8.5	9.0
170.	3.0	3.3	3.7	10.0	8.8
180.	3.3	3.2	3.5	11.0	8.8
190.	3.5	3.3	3.6	11.2	9.1
200.	4.3	3.9	3.8	11.1	9.4
210.	5.5	5.1	3.9	11.1	9.8
220.	7.0	6.7	3.7	10.6	10.1
230.	7.8	8.0	3.6	9.7	10.2
240.	8.0	8.8	3.5	8.5	9.9
250.	8.1	8.9	3.6	7.1	10.3
260.	8.6	9.0	3.9	5.9	10.2
270.	8.9	9.3	4.5	5.0	10.2
280.	8.9	10.2	4.7	4.1	10.2
290.	8.3	11.3	4.5	3.6	10.1
300.	7.7	12.0	4.6	3.4	10.0
310.	7.9	11.9	4.4	3.4	9.8
320.	8.7	11.1	4.3	3.3	9.4
330.	9.9	10.1	4.0	3.2	8.9
340.	11.1	10.2	3.8	3.0	8.3
350.	12.1	11.1	3.9	3.5	8.0
360.	12.3	12.5	4.7	5.0	7.7
MAX.	12.3 0 DEGR.	12.7 10 DEGR.	15.0 80 DEGR.	14.1 90 DEGR.	11.7 100 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	12.3	0	12.7	10	15.0	80	14.1	90	11.7	100

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 1990 EXISTING 1-HR PM CITY SQ., CHARLTON

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. N WASHINGTON NB FF	-5.	-32.	-5.	-1032.	1000.	180.	AG	2410.	33.3	0.0	9.8	0.00	0.0
2. N WASHINGTON NEB FF	-5.	-35.	14.	20.	58.	19.	AG	2410.	33.3	0.0	9.8	0.00	0.0
3. TO CHARLESTOWN FF	2.	-18.	822.	-592.	1000.	125.	AG	155.	40.0	0.0	9.4	0.00	0.0
4. PARK STREET FF	8.	2.	1008.	2.	1000.	90.	AG	880.	49.9	0.0	9.1	0.00	0.0
5. MAIN STREET FF	-16.	14.	969.	187.	1000.	80.	AG	2210.	62.8	0.0	10.3	0.00	0.0
6. RUTHER/WASH SB FF	-11.	14.	-11.	-986.	1000.	180.	AG	2006.	40.0	0.0	13.6	0.00	0.0
7. RUTHERFORD N/S FF	-14.	13.	-357.	953.	1000.	340.	AG	2635.	40.0	0.0	18.2	0.00	0.0
8. I-93 N. OF DEPRESSIO*	-152.	0.	-152.	305.	305.	360.	BR	5200.	24.9	7.6	32.6	0.00	0.0
9. I-93 N. OF DEPRESSIO*	-152.	0.	-152.	-183.	183.	180.	BR	5200.	24.9	7.6	32.6	0.00	0.0

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. DISTRICT COURT	-5.	20.	1.8
2. PARK BENCH	27.	29.	1.8
3. RESTAURANT	33.	12.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 1990 EXISTING 1-HR PM CITY SQ., CHARLTON

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3
0.	5.9	5.0	8.6
10.	5.6	5.0	8.6
20.	5.7	5.0	8.7
30.	5.8	5.0	9.0
40.	6.1	5.1	9.3
50.	6.7	5.3	9.7
60.	8.5	6.0	10.3
70.	11.9	8.1	10.5
80.	15.3	10.8	10.0
90.	16.3	12.5	8.5
100.	15.5	12.2	7.2
110.	14.4	11.5	6.6
120.	13.5	10.8	6.4
130.	12.6	10.4	6.4
140.	12.1	10.0	6.3
150.	12.0	9.8	6.2
160.	12.8	9.9	6.2
170.	14.9	10.5	6.7
180.	16.3	11.7	7.7
190.	15.9	12.7	8.6
200.	14.6	13.3	8.6
210.	13.6	13.5	8.8
220.	13.6	13.6	8.9
230.	13.6	13.3	9.0
240.	13.2	12.7	9.1
250.	12.9	11.5	9.4
260.	12.3	9.7	9.9
270.	11.1	8.2	10.9
280.	10.3	7.3	11.7
290.	9.9	7.1	11.8
300.	10.1	7.1	11.6
310.	10.4	7.1	11.1
320.	11.0	7.1	10.9
330.	10.9	6.8	10.4
340.	9.5	6.1	9.7
350.	7.4	5.3	8.9
360.	5.9	5.0	8.6
MAX.	16.3 90 DEGR.	13.6 220 DEGR.	11.8 290 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE
0 -360	16.3	90	13.6	220	11.8	290

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 1990 EXISTING 8-HR PM CITY SQUARE CHARLT

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. N WASHINGTON NB FF	-5.	-32.	-5.	-1032.	1000.	180.	AG	1904.	19.7	0.0	9.8	0.00	0.0
2. N WASHINGTON NEB FF	-5.	-35.	14.	20.	58.	19.	AG	1904.	19.7	0.0	9.8	0.00	0.0
3. TO CHARLESTOWN FF	2.	-18.	822.	-592.	1000.	125.	AG	122.	19.7	0.0	9.4	0.00	0.0
4. PARK STREET FF	8.	2.	1008.	2.	1000.	90.	AG	695.	23.8	0.0	9.1	0.00	0.0
5. MAIN STREET FF	-16.	14.	969.	187.	1000.	80.	AG	1746.	29.7	0.0	10.3	0.00	0.0
6. RUTHER/WASH SB FF	-11.	14.	-11.	-986.	1000.	180.	AG	1585.	19.7	0.0	13.6	0.00	0.0
7. RUTHERFORD N/S FF	-14.	13.	-357.	953.	1000.	340.	AG	2082.	19.7	0.0	18.2	0.00	0.0
8. I-93 N. OF DEPRESSIO	-152.	0.	-152.	305.	305.	360.	BR	4108.	13.3	7.6	32.6	0.00	0.0
9. I-93 N. OF DEPRESSIO	-152.	0.	-152.	-183.	183.	180.	BR	4108.	13.3	7.6	32.6	0.00	0.0

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. DISTRICT COURT	-5.	20.	1.8
2. PARK BENCH	27.	29.	1.8
3. RESTAURANT	33.	12.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 1990 EXISTING 8-HR PM CITY SQUARE CHARLT

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3
0.	3.3	3.0	4.3
10.	3.2	3.0	4.3
20.	3.3	3.0	4.4
30.	3.4	3.0	4.5
40.	3.4	3.0	4.6
50.	3.6	3.1	4.8
60.	4.3	3.4	5.0
70.	5.6	4.2	5.1
80.	6.9	5.2	4.9
90.	7.3	5.8	4.3
100.	7.0	5.7	3.8
110.	6.7	5.4	3.6
120.	6.2	5.2	3.5
130.	5.9	5.0	3.5
140.	5.8	4.8	3.4
150.	5.8	4.7	3.4
160.	6.1	4.7	3.4
170.	6.9	5.1	3.6
180.	7.5	5.5	4.1
190.	7.2	6.0	4.3
200.	6.7	6.3	4.4
210.	6.2	6.4	4.5
220.	6.3	6.4	4.6
230.	6.3	6.4	4.7
240.	6.2	5.9	4.7
250.	5.9	5.4	4.6
260.	5.8	4.8	5.1
270.	5.4	4.2	5.4
280.	5.1	3.9	5.5
290.	5.0	3.8	5.6
300.	5.0	3.8	5.4
310.	5.2	3.9	5.3
320.	5.3	3.8	5.2
330.	5.3	3.7	5.1
340.	4.7	3.4	4.7
350.	3.9	3.1	4.4
360.	3.3	3.0	4.3
MAX.	7.5 180 DEGR.	6.4 210 DEGR.	5.6 290 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE
0 -360	7.5	180	6.4	210	5.6	290

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 1990 EXISTING 1-HR PM STAN/CAMBRDG/TEMP

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAMBRIDGE ST EB FF	0.	0.	-1000.	0.	1000.	270.	AG	2475.	49.9	0.0	26.6	0.00	0.0
2. STANIFORD ST SB FF	1.	0.	1.	1000.	1000.	360.	AG	1380.	49.9	0.0	24.3	0.00	0.0
3. CAMBRIDGE ST WB FF	0.	0.	1000.	0.	1000.	90.	AG	2680.	49.9	0.0	26.6	0.00	0.0
4. TEMPLE ST FF	7.	0.	7.	-1000.	1000.	180.	AG	175.	49.9	0.0	9.1	0.00	0.0
5. CAMBRIDGE EB THRU Q	-12.	-5.	-642.	-5.	630.	270.	AG	1009.	100.0	0.0	9.4	1.21	104.9
6. CAMBRIDGE EB LEFT Q	-12.	-2.	-43.	-2.	31.	270.	AG	1537.	100.0	0.0	9.1	0.78	5.2
7. STANIFORD SB THRU Q	-3.	14.	-3.	41.	26.	360.	AG	3166.	100.0	0.0	12.1	0.74	4.4
8. CAMBRIDGE WB RIGHT Q	13.	5.	27.	5.	14.	90.	AG	619.	100.0	0.0	9.1	0.40	2.3
9. CAMBRIDGE WB THRU Q	13.	2.	749.	2.	736.	90.	AG	1193.	100.0	0.0	9.1	1.31	122.7
10. TEMPLE ST NB THRU Q	7.	-11.	7.	-27.	17.	180.	AG	1583.	100.0	0.0	9.1	0.50	2.8

WARNING: THE LENGTH (736. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (14. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	-10.	-14.	1.8
2. CHURCH	-27.	29.	1.8
3. PLAYGROUND	-12.	31.	1.8
4. BUILDING	25.	28.	1.8
5. STORE	13.	-14.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 1990 EXISTING 1-HR PM STAN/CAMBRDG/TEMP

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	15.3	6.1	8.5	6.3	14.0
10.	14.9	6.6	10.2	5.5	12.5
20.	13.3	6.6	11.0	5.1	11.5
30.	12.0	6.6	11.8	5.0	11.6
40.	11.5	6.9	12.9	5.0	11.7
50.	11.7	7.5	13.7	5.0	12.2
60.	12.9	8.4	14.5	5.0	12.7
70.	14.4	9.8	15.3	5.3	13.5
80.	16.0	11.8	17.0	6.5	14.4
90.	15.0	14.5	19.6	8.7	12.7
100.	11.5	15.8	20.7	10.2	9.0
110.	8.8	14.9	20.6	10.3	6.4
120.	7.5	13.3	20.3	9.9	5.6
130.	6.7	11.5	20.0	9.6	5.5
140.	6.1	10.4	19.1	9.2	5.4
150.	5.6	9.8	17.7	9.3	5.4
160.	5.3	9.7	15.9	9.2	5.5
170.	5.2	9.9	14.1	9.5	6.0
180.	5.2	10.0	12.0	9.9	7.1
190.	5.1	9.8	10.5	10.1	8.4
200.	5.1	9.6	10.2	10.2	9.2
210.	5.2	9.2	9.9	10.3	10.1
220.	5.3	8.9	9.8	10.2	10.3
230.	5.4	8.9	9.5	11.5	10.5
240.	5.6	9.0	9.3	12.8	10.7
250.	6.6	9.3	9.2	14.2	11.6
260.	9.8	9.2	9.0	14.7	14.6
270.	14.1	7.9	7.7	13.4	18.6
280.	16.6	6.1	6.0	11.0	19.4
290.	16.8	5.1	5.1	9.3	17.3
300.	16.3	5.0	5.1	8.1	15.1
310.	15.5	5.0	5.2	7.2	14.1
320.	14.3	5.0	5.2	6.8	13.8
330.	13.7	5.0	5.3	6.6	14.1
340.	13.6	5.1	5.7	6.8	14.7
350.	14.2	5.4	6.7	6.8	14.8
360.	15.3	6.1	8.5	6.3	14.0
MAX.	16.8 290 DEGR.	15.8 100 DEGR.	20.7 100 DEGR.	14.7 260 DEGR.	19.4 280 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	16.8	290	15.8	100	20.7	100	14.7	260	19.4	280

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 1990 EXISTING 8-HR PM STAN/CAMBRDG/TEMP

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAMBRIDGE ST EB FF	0.	0.	-1000.	0.	1000.	270.	AG	1955.	23.8	0.0	26.6	0.00	0.0
2. STANIFORD ST SB FF	1.	0.	1.	1000.	1000.	360.	AG	1090.	23.8	0.0	24.3	0.00	0.0
3. CAMBRIDGE ST WB FF	0.	0.	1000.	0.	1000.	90.	AG	2118.	23.8	0.0	26.6	0.00	0.0
4. TEMPLE ST FF	7.	0.	7.	-1000.	1000.	180.	AG	138.	29.7	0.0	9.1	0.00	0.0
5. CAMBRIDGE EB THRU Q	-12.	-5.	-82.	-5.	70.	270.	AG	611.	100.0	0.0	9.4	0.95	11.7
6. CAMBRIDGE EB LEFT Q	-12.	-2.	-34.	-2.	22.	270.	AG	930.	100.0	0.0	9.1	0.60	3.7
7. STANIFORD SB THRU Q	-3.	14.	-3.	34.	19.	360.	AG	1915.	100.0	0.0	12.1	0.56	3.2
8. CAMBRIDGE WB RIGHT Q	13.	5.	24.	5.	11.	90.	AG	375.	100.0	0.0	9.1	0.31	1.8
9. CAMBRIDGE WB THRU Q	13.	2.	166.	2.	153.	90.	AG	722.	100.0	0.0	9.1	1.03	25.5
10. TEMPLE ST NB THRU Q	7.	-11.	7.	-24.	13.	180.	AG	957.	100.0	0.0	9.1	0.39	2.1

WARNING: THE LENGTH (153. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (11. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	-10.	-14.	1.8
2. CHURCH	-27.	29.	1.8
3. PLAYGROUND	-12.	31.	1.8
4. BUILDING	25.	28.	1.8
5. STORE	13.	-14.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 1990 EXISTING 8-HR PM STAN/CAMBRDG/TEMP

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	7.5	3.4	4.1	3.5	6.8
10.	7.3	3.6	4.2	3.2	6.4
20.	6.5	3.6	4.2	3.0	6.0
30.	6.0	3.5	4.3	3.0	6.0
40.	5.6	3.5	4.5	3.0	6.1
50.	5.9	3.6	4.8	3.0	6.2
60.	6.4	3.9	5.2	3.0	6.4
70.	7.1	4.5	6.1	3.1	6.7
80.	7.8	5.5	7.5	3.4	6.8
90.	7.2	6.9	9.2	4.2	5.8
100.	5.9	7.8	10.3	4.9	4.4
110.	4.7	7.7	11.0	5.2	3.6
120.	4.1	7.0	11.1	5.2	3.2
130.	3.7	6.1	11.0	5.1	3.2
140.	3.4	5.4	10.4	5.0	3.2
150.	3.2	5.2	9.7	4.9	3.2
160.	3.1	5.2	8.7	4.8	3.1
170.	3.1	5.5	7.5	5.0	3.4
180.	3.1	5.3	6.4	5.2	3.9
190.	3.0	5.1	5.5	5.4	4.5
200.	3.0	4.9	5.5	5.3	5.0
210.	3.1	4.7	5.3	5.2	5.4
220.	3.1	4.6	5.1	5.3	5.7
230.	3.1	4.5	4.8	6.1	5.8
240.	3.2	4.4	4.4	6.5	6.0
250.	3.6	4.3	4.3	7.1	6.6
260.	4.7	4.2	4.1	7.0	7.6
270.	6.4	3.7	3.7	6.3	9.1
280.	7.6	3.3	3.3	5.2	9.4
290.	8.2	3.1	3.0	4.4	8.7
300.	8.3	3.0	3.0	3.8	7.7
310.	8.2	3.0	3.1	3.6	7.1
320.	7.8	3.0	3.1	3.6	6.9
330.	7.5	3.0	3.1	3.6	7.1
340.	7.1	3.0	3.2	3.7	7.3
350.	7.3	3.2	3.6	3.7	7.2
360.	7.5	3.4	4.1	3.5	6.8
MAX.	8.3 300 DEGR.	7.8 100 DEGR.	11.1 120 DEGR.	7.1 250 DEGR.	9.4 280 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	8.3	300	7.8	100	11.1	120	7.1	250	9.4	280

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 1990 EXISTING 1-HR PM CAMBRDG/BOWD/NEWCH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAMBRIDGE ST W FF	0.	0.	-1000.	0.	1000.	270.	AG	2680.	49.9	0.0	28.1	0.00	0.0
2. NEW CHARDON ST FF	0.	0.	0.	1000.	1000.	360.	AG	1160.	40.0	0.0	21.2	0.00	0.0
3. CAMBRIDGE ST E FF	0.	0.	1000.	0.	1000.	90.	AG	2410.	49.9	0.0	28.9	0.00	0.0
4. BOWDOIN ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1160.	49.9	0.0	22.8	0.00	0.0
5. CAMBRIDGE ST W Q	-14.	-5.	-47.	-5.	32.	270.	AG	3648.	100.0	0.0	15.1	0.66	5.4
6. NEW CHARDON RIGHT Q	-3.	15.	-3.	56.	41.	360.	AG	1124.	100.0	0.0	9.1	0.76	6.8
7. NEW CHARDON THRU Q	2.	15.	2.	41.	26.	360.	AG	2845.	100.0	0.0	12.1	0.62	4.4
8. CAMBRIDGE ST E Q	16.	5.	38.	5.	22.	90.	AG	3028.	100.0	0.0	12.1	0.57	3.7
9. BOWDOIN ST Q	3.	-15.	3.	22.	37.	360.	AG	2845.	100.0	0.0	12.1	0.80	6.2

WARNING: THE LENGTH (41. m) OF THE QUEUE LINK # 6 IS GREATER THAN THE LENGTH (32. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (37. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (22. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SUB SHOP	-13.	-14.	1.8
2. BENCH	-12.	30.	1.8
3. COURTYARD BENCH	14.	27.	1.8
4. TELEPHONES	19.	-19.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 1990 EXISTING 1-HR PM CAMBRDG/BOWD/NEWCH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	16.9	7.5	6.9	14.0
10.	17.8	8.7	5.8	12.6
20.	18.5	9.8	5.3	11.8
30.	18.9	10.9	5.1	11.2
40.	19.0	12.1	5.0	10.4
50.	18.9	12.9	5.0	9.6
60.	19.1	13.9	5.0	9.1
70.	19.0	14.6	5.2	9.2
80.	18.0	16.0	5.9	9.4
90.	15.4	17.9	7.1	8.3
100.	11.4	20.0	8.2	6.5
110.	8.4	21.4	8.8	5.5
120.	7.3	22.5	9.4	5.1
130.	6.8	22.3	10.4	5.1
140.	6.9	21.6	11.2	5.1
150.	7.1	19.7	11.5	5.0
160.	7.4	17.0	11.8	5.2
170.	7.7	14.6	12.2	5.6
180.	7.2	13.0	14.0	6.3
190.	6.2	12.0	16.0	6.8
200.	5.5	11.7	18.3	6.9
210.	5.4	11.4	20.4	6.6
220.	5.5	10.7	22.2	6.5
230.	5.6	9.8	23.2	6.4
240.	5.9	8.8	23.4	6.4
250.	7.0	8.3	22.5	7.0
260.	10.2	7.9	20.8	9.4
270.	15.3	7.1	18.5	13.1
280.	19.1	5.8	16.1	16.4
290.	20.4	5.2	14.9	17.7
300.	20.5	5.0	14.5	17.4
310.	19.9	5.1	13.8	16.9
320.	18.6	5.1	12.8	17.5
330.	17.0	5.2	11.1	17.6
340.	15.8	5.5	9.5	17.2
350.	15.9	6.2	8.0	15.9
360.	16.9	7.5	6.9	14.0
MAX.	20.5 300 DEGR.	22.5 120 DEGR.	23.4 240 DEGR.	17.7 290 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	20.5	300	22.5	120	23.4	240	17.7	290

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#1) RUN: 1995 BUILD 1-HR AM LEVERETT CIRCLE

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. STORROW DR EB FF	-17.	-17.	-1017.	-17.	1000.	270.	AG	3405.	20.6	0.0	15.1	0.00	0.0
2. STORROW DR WB FF	-17.	11.	-1017.	11.	1000.	270.	AG	1580.	20.6	0.0	15.1	0.00	0.0
3. LEVER CIR/NASH ST FF	-17.	8.	250.	8.	267.	90.	AG	1625.	36.1	0.0	12.1	0.00	0.0
4. LEVER CIR/NASH ST FF	250.	8.	250.	-305.	313.	180.	AG	1625.	36.1	0.0	12.1	0.00	0.0
5. LEVERETT CIRC SB FF	-17.	-17.	-17.	10.	27.	360.	AG	1235.	36.1	0.0	15.1	0.00	0.0
6. O'BRIEN HWY SB FF	-17.	10.	-17.	40.	30.	360.	AG	2215.	24.0	0.0	15.1	0.00	0.0
7. O'BRIEN HWY SB FF	-15.	40.	-15.	983.	943.	360.	AG	1750.	14.4	0.0	12.1	0.00	0.0
8. TO I-93 ON-RAMP FF	-17.	-17.	436.	-228.	500.	115.	AG	3130.	36.1	0.0	15.1	0.00	0.0
9. TO MARTHA ROAD FF	-17.	-17.	305.	-305.	432.	132.	AG	1030.	36.1	0.0	15.1	0.00	0.0
10. LEVERETT CIRC NB FF	26.	-27.	26.	11.	38.	360.	AG	500.	36.1	0.0	12.1	0.00	0.0
11. LEVER TO O'BRI NB FF	11.	12.	-10.	30.	27.	310.	AG	1025.	24.0	0.0	13.6	0.00	0.0
12. O'BRIEN HWY NB FF	-7.	12.	-7.	1012.	1000.	360.	AG	1025.	24.0	0.0	13.6	0.00	0.0
13. STORROW DR EB Q	-23.	-17.	-104.	-17.	81.	270.	AG	1824.	100.0	0.0	18.2	0.80	13.5
14. LEVERETT CIRC SB Q	-14.	-9.	-14.	0.	9.	360.	AG	734.	100.0	0.0	9.1	0.00	0.0
15. LEVERETT CIRC SB Q	-17.	-9.	-17.	0.	9.	360.	AG	734.	100.0	0.0	9.1	0.00	0.0
16. LEVERETT CIRC SB Q	-20.	-9.	-20.	0.	9.	360.	AG	734.	100.0	0.0	9.1	0.00	0.0
17. LEVERETT CIRC WB Q	-8.	8.	15.	8.	23.	90.	AG	912.	100.0	0.0	12.1	0.28	3.9
18. O'BRIEN HWY THRU Q	-15.	15.	-15.	110.	95.	360.	AG	1467.	100.0	0.0	12.1	0.86	15.8

WARNING: THE LENGTH (23. m) OF THE QUEUE LINK # 17 IS GREATER THAN THE LENGTH (9. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (95. m) OF THE QUEUE LINK # 18 IS GREATER THAN THE LENGTH (23. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. POLICE DEPT	-26.	30.	1.8
2. SCIENCE PRK GRN LINE	15.	-5.	1.8
3. CHARLES RIVER PARK	-38.	-30.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#1) RUN: 1995 BUILD 1-HR AM LEVERETT CIRCLE

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3
0.	9.0	8.6	13.4
10.	10.9	7.5	14.6
20.	11.8	6.8	15.0
30.	11.8	6.8	14.9
40.	11.5	6.8	14.0
50.	11.2	7.0	13.3
60.	11.0	7.2	11.8
70.	11.1	7.2	10.9
80.	11.4	7.2	9.9
90.	12.1	6.7	9.1
100.	12.8	6.5	8.8
110.	13.6	6.9	8.3
120.	14.7	7.8	7.2
130.	15.1	8.5	6.0
140.	14.7	8.6	5.4
150.	13.3	8.5	5.0
160.	12.4	8.1	5.0
170.	11.1	7.8	5.0
180.	9.8	7.6	5.0
190.	9.1	7.5	5.0
200.	8.7	7.4	5.0
210.	8.6	7.4	5.0
220.	8.6	7.6	5.0
230.	8.3	8.2	5.0
240.	7.9	9.1	5.1
250.	7.5	10.5	5.5
260.	7.0	11.9	6.9
270.	6.3	11.7	9.5
280.	5.5	10.6	12.1
290.	5.1	9.8	13.1
300.	5.0	10.0	13.2
310.	5.0	10.7	12.8
320.	5.0	11.6	12.2
330.	5.1	11.7	12.0
340.	5.4	11.2	11.7
350.	6.8	10.1	12.2
360.	9.0	8.6	13.4
MAX.	15.1 130 DEGR.	11.9 260 DEGR.	15.0 20 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE
0 -360	15.1	130	11.9	260	15.0	20

JOB: CAL3QHC NEW BOSTON GARDEN (#1) RUN: 1995 BUILD 8-HR AM LEVERETT CIRCLE

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. STORROW DR EB FF	-17.	-17.	-1017.	-17.	1000.	270.	AG	2690.	10.8	0.0	15.1	0.00	0.0
2. STORROW DR WB FF	-17.	11.	-1017.	11.	1000.	270.	AG	1248.	10.8	0.0	15.1	0.00	0.0
3. LEVER CIR/NASH ST FF	-17.	8.	250.	8.	267.	90.	AG	1284.	17.3	0.0	12.1	0.00	0.0
4. LEVER CIR/NASH ST FF	250.	8.	250.	-305.	313.	180.	AG	1284.	17.3	0.0	12.1	0.00	0.0
5. LEVERETT CIRC SB FF	-17.	-17.	-17.	10.	27.	360.	AG	976.	17.3	0.0	15.1	0.00	0.0
6. O'BRIEN HWY SB FF	-17.	10.	-17.	40.	30.	360.	AG	1750.	14.4	0.0	15.1	0.00	0.0
7. O'BRIEN HWY SB FF	-15.	40.	-15.	983.	943.	360.	AG	1750.	14.4	0.0	15.1	0.00	0.0
8. TO I-93 ON-RAMP FF	-17.	-17.	436.	-228.	500.	115.	AG	2473.	17.3	0.0	15.1	0.00	0.0
9. TO MARTHA ROAD FF	-17.	-17.	305.	-305.	432.	132.	AG	814.	17.3	0.0	15.1	0.00	0.0
10. LEVERETT CIRC NB FF	26.	-27.	26.	11.	38.	360.	AG	395.	17.3	0.0	12.1	0.00	0.0
11. LEVERET TO OBR NB FF	11.	12.	-10.	30.	27.	310.	AG	810.	17.3	0.0	13.6	0.00	0.0
12. O'BRIEN HWY NB FF	-7.	12.	-7.	1012.	1000.	360.	AG	810.	14.4	0.0	13.6	0.00	0.0
13. STORROW DR EB Q	-23.	-17.	-81.	-17.	58.	270.	AG	1140.	100.0	0.0	18.2	0.63	9.7
14. LEVERETT CIRC SB Q	-14.	-9.	-14.	0.	9.	360.	AG	459.	100.0	0.0	9.1	0.00	0.0
15. LEVERETT CIRC SB Q	-17.	-9.	-17.	0.	9.	360.	AG	459.	100.0	0.0	9.1	0.00	0.0
16. LEVERETT CIRC SB Q	-20.	-9.	-20.	0.	9.	360.	AG	459.	100.0	0.0	9.1	0.00	0.0
17. LEVERETT CIRC WB Q	-8.	8.	10.	8.	18.	90.	AG	570.	100.0	0.0	12.1	0.22	3.0
18. O'BRIEN HWY THRU Q	-15.	15.	-15.	83.	68.	360.	AG	917.	100.0	0.0	12.1	0.68	11.3

WARNING: THE LENGTH (18. m) OF THE QUEUE LINK # 17 IS GREATER THAN THE LENGTH (9. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (68. m) OF THE QUEUE LINK # 18 IS GREATER THAN THE LENGTH (18. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. POLICE DEPT	-26.	30.	1.8
2. SCIENCE PRK GRN LINE	15.	-5.	1.8
3. CHARLES RIVER PARK	-38.	-30.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#1) RUN: 1995 BUILD 8-HR AM LEVERETT CIRCLE

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3
0.	5.2	4.5	7.8
10.	6.5	3.7	8.3
20.	7.0	3.6	8.5
30.	7.1	3.6	8.3
40.	7.1	3.7	7.8
50.	6.7	3.8	7.2
60.	6.5	3.8	6.3
70.	6.5	3.9	5.6
80.	6.5	3.8	4.9
90.	6.9	3.6	4.6
100.	6.9	3.6	4.4
110.	7.5	3.8	4.3
120.	7.8	4.1	3.9
130.	7.9	4.3	3.3
140.	7.8	4.3	3.1
150.	7.1	4.3	3.0
160.	6.8	4.2	3.0
170.	6.0	4.0	3.0
180.	5.5	3.9	3.0
190.	5.1	3.9	3.0
200.	4.9	3.9	3.0
210.	4.8	3.9	3.0
220.	4.6	4.0	3.0
230.	4.3	4.3	3.0
240.	4.1	4.9	3.0
250.	3.9	5.5	3.2
260.	3.8	6.4	3.8
270.	3.5	6.2	4.9
280.	3.2	5.8	6.1
290.	3.0	5.2	6.9
300.	3.0	5.6	7.2
310.	3.0	5.9	7.2
320.	3.0	6.3	7.1
330.	3.0	6.3	6.9
340.	3.2	6.0	6.6
350.	4.0	5.2	7.1
360.	5.2	4.5	7.8
MAX.	7.9 130 DEGR.	6.4 260 DEGR.	8.5 20 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE
0 -360	7.9	130	6.4	260	8.5	20

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#1) RUN: 1995 NO-BUILD 1-HR AM LEVERETT CIRCLE

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. STORROW DR EB FF	-17.	-17.	-1017.	-17.	1000.	270.	AG	3345.	20.6	0.0	18.2	0.00	0.0
2. STORROW DR WB FF	-17.	11.	-1017.	11.	1000.	270.	AG	1575.	20.6	0.0	15.1	0.00	0.0
3. LEVER CIR/NASH ST FF	-17.	8.	250.	8.	267.	90.	AG	1620.	36.1	0.0	12.1	0.00	0.0
4. LEVER CIR/NASH ST FF	250.	8.	250.	-305.	313.	180.	AG	1620.	36.1	0.0	12.1	0.00	0.0
5. LEVERETT CIRC SB FF	-17.	-17.	-17.	10.	27.	360.	AG	1220.	36.1	0.0	15.1	0.00	0.0
6. O'BRIEN HWY SB FF	-17.	10.	-17.	40.	30.	360.	AG	2200.	24.0	0.0	15.1	0.00	0.0
7. O'BRIEN HWY SB FF	-15.	40.	-15.	983.	943.	360.	AG	2200.	24.0	0.0	15.1	0.00	0.0
8. TO I-93 ON-RAMP FF	-17.	-17.	436.	-228.	500.	115.	AG	3130.	36.1	0.0	15.1	0.00	0.0
9. TO MARTHA ROAD FF	-17.	-17.	305.	-305.	432.	132.	AG	955.	36.1	0.0	15.1	0.00	0.0
10. LEVERETT CIRC NB FF	26.	-27.	26.	11.	38.	360.	AG	500.	36.1	0.0	12.1	0.00	0.0
11. LEVERETT TO O'BR FF	11.	12.	-10.	30.	27.	310.	AG	1025.	24.0	0.0	13.6	0.00	0.0
12. O'BRIEN HWY NB FF	-7.	12.	-7.	1012.	1000.	360.	AG	1025.	24.0	0.0	13.6	0.00	0.0
13. STORROW DR EB Q	-23.	-17.	-102.	-17.	79.	270.	AG	1824.	100.0	0.0	18.2	0.78	13.1
14. LEVERETT CIRC SB Q	-14.	-9.	-14.	0.	9.	360.	AG	733.	100.0	0.0	9.1	0.00	0.0
15. LEVERETT CIRC SB Q	-17.	-9.	-17.	0.	9.	360.	AG	733.	100.0	0.0	9.1	0.00	0.0
16. LEVERETT CIRC SB Q	-20.	-9.	-20.	0.	9.	360.	AG	733.	100.0	0.0	9.1	0.00	0.0
17. LEVERETT CIRC WB Q	-8.	8.	15.	8.	23.	90.	AG	912.	100.0	0.0	12.1	0.28	3.8
18. O'BRIEN HWY THRU Q	-15.	15.	-15.	108.	93.	360.	AG	1467.	100.0	0.0	12.1	0.85	15.4

WARNING: THE LENGTH (23. m) OF THE QUEUE LINK # 17 IS GREATER THAN THE LENGTH (9. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (93. m) OF THE QUEUE LINK # 18 IS GREATER THAN THE LENGTH (23. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. POLICE DEPT	-26.	30.	1.8
2. SCIENCE PRK GRN LINE	15.	-5.	1.8
3. CHARLES RIVER PARK	-38.	-30.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#1) RUN: 1995 NO-BUILD 1-HR AM LEVERETT CIRCLE

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3
0.	9.9	8.9	13.9
10.	12.0	7.6	15.0
20.	12.6	6.7	15.2
30.	12.5	6.8	15.0
40.	12.0	6.8	14.1
50.	11.6	6.9	13.4
60.	11.2	7.2	11.8
70.	11.2	7.2	11.0
80.	11.5	7.2	10.0
90.	12.1	6.7	9.1
100.	12.7	6.5	8.9
110.	13.6	6.9	8.2
120.	14.7	7.8	7.1
130.	15.0	8.5	6.0
140.	14.7	8.5	5.4
150.	13.3	8.4	5.0
160.	12.3	8.0	5.0
170.	11.1	7.8	5.0
180.	9.8	7.5	5.0
190.	9.1	7.4	5.0
200.	8.7	7.4	5.0
210.	8.6	7.4	5.0
220.	8.6	7.6	5.0
230.	8.4	8.2	5.0
240.	7.8	9.2	5.2
250.	7.4	10.5	5.6
260.	7.1	11.8	7.0
270.	6.3	11.8	9.6
280.	5.5	10.5	12.2
290.	5.1	9.8	13.3
300.	5.0	10.0	13.3
310.	5.0	10.7	12.8
320.	5.0	11.8	12.3
330.	5.2	11.9	12.0
340.	5.6	11.6	11.8
350.	7.3	10.4	12.3
360.	9.9	8.9	13.9
MAX.	15.0 130 DEGR.	11.9 330 DEGR.	15.2 20 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE
0 -360	15.0	130	11.9	330	15.2	20

JOB: CAL3QHC NEW BOSTON GARDEN (#1) RUN: 1995 NO-BUILD 8-HR AM LEVERETT CIRCLE

I. SITE VARIABLES

U = 1.0 M/... CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. STORROW DR EB FF	-17.	-17.	-1017.	-17.	1000.	270.	AG	2643.	10.8	0.0	18.2	0.00	0.0
2. STORROW DR WB FF	-17.	11.	-1017.	11.	1000.	270.	AG	1244.	10.8	0.0	15.1	0.00	0.0
3. LEVER CIR/NASH ST FF	-17.	8.	250.	8.	267.	90.	AG	1280.	17.3	0.0	12.1	0.00	0.0
4. LEVER CIR/NASH ST FF	250.	8.	250.	-305.	313.	180.	AG	1280.	17.3	0.0	12.1	0.00	0.0
5. LEVERETT CIRC SB FF	-17.	-17.	-17.	10.	27.	360.	AG	964.	17.3	0.0	15.1	0.00	0.0
6. O'BRIEN HWY SB FF	-17.	10.	-17.	40.	30.	360.	AG	1738.	14.4	0.0	15.1	0.00	0.0
7. O'BRIEN HWY SB FF	-15.	40.	-15.	983.	943.	360.	AG	1738.	14.4	0.0	15.1	0.00	0.0
8. TO I-93 ON-RAMP FF	-17.	-17.	436.	-228.	500	115.	AG	2473.	17.3	0.0	17.4	0.00	0.0
9. TO MARTHA ROAD FF	-17.	-17.	305.	-305.	432.	132.	AG	754.	17.3	0.0	17.4	0.00	0.0
10. LEVERETT CIRC NB FF	26.	-27.	26.	11.	38.	360.	AG	395.	17.3	0.0	12.1	0.00	0.0
11. LEVERETT RAMP FF	11.	12.	-10.	30.	27.	310.	AG	810.	17.3	0.0	13.6	0.00	0.0
12. O'BRIEN HWY NB FF	-7.	12.	-7.	1012.	1000.	360.	AG	810.	14.4	0.0	13.6	0.00	0.0
13. STORROW DR EB Q	-23.	-17.	-80.	-17.	57.	270.	AG	1140.	100.0	0.0	18.2	0.62	9.4
14. LEVERETT CIRC SB Q	-14.	-9.	-14.	0.	9.	360.	AG	459.	100.0	0.0	9.1	0.00	0.0
15. LEVERETT CIRC SB Q	-17.	-9.	-17.	0.	9.	360.	AG	459.	100.0	0.0	9.1	0.00	0.0
16. LEVERETT CIRC SB Q	-20.	-9.	-20.	0.	9.	360.	AG	459.	100.0	0.0	9.1	0.00	0.0
17. LEVERETT CIRC WB Q	-8.	8.	10.	8.	18.	90.	AG	570.	100.0	0.0	12.1	0.22	3.0
18. O'BRIEN HWY THRU Q	-15.	15.	-15.	82.	67.	360.	AG	917.	100.0	0.0	12.1	0.67	11.1

WARNING: THE LENGTH (18. m) OF THE QUEUE LINK # 17 IS GREATER THAN THE LENGTH (9. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (67. m) OF THE QUEUE LINK # 18 IS GREATER THAN THE LENGTH (18. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. POLICE DEPT	-26.	30.	1.8
2. SCIENCE PRK GRN LINE	15.	-5.	1.8
3. CHARLES RIVER PARK	-38.	-30.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#1) RUN: 1995 NO-BUILD 8-HR AM LEVERETT CIRCLE

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3
0.	5.2	4.4	7.8
10.	6.4	3.7	8.2
20.	7.0	3.6	8.5
30.	7.1	3.6	8.3
40.	7.1	3.7	7.8
50.	6.7	3.8	7.2
60.	6.5	3.8	6.3
70.	6.5	3.9	5.7
80.	6.5	3.8	4.9
90.	6.9	3.6	4.6
100.	6.9	3.6	4.5
110.	7.5	3.8	4.3
120.	7.8	4.1	3.9
130.	8.0	4.4	3.3
140.	7.8	4.4	3.1
150.	7.1	4.3	3.0
160.	6.8	4.1	3.0
170.	6.0	4.1	3.0
180.	5.5	4.0	3.0
190.	5.0	4.0	3.0
200.	4.9	4.0	3.0
210.	4.8	4.0	3.0
220.	4.6	4.0	3.0
230.	4.4	4.3	3.0
240.	4.0	4.8	3.0
250.	3.9	5.6	3.2
260.	3.8	6.4	3.8
270.	3.6	6.2	4.9
280.	3.2	5.8	6.1
290.	3.0	5.1	6.9
300.	3.0	5.6	7.2
310.	3.0	5.9	7.3
320.	3.0	6.2	7.1
330.	3.0	6.3	6.9
340.	3.2	6.0	6.6
350.	4.0	5.1	7.1
360.	5.2	4.4	7.8
MAX.	8.0 130 DEGR.	6.4 260 DEGR.	8.5 20 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE
0 -360	8.0	130	6.4	260	8.5	20

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1995 BUILD 1-HR PM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	2075.	28.9	0.0	19.4	0.00	0.0
2. CAUSEWAY ST TH/LT FF	-9.	9.	757.	652.	1000.	50.	AG	1180.	36.1	0.0	19.4	0.00	0.0
3. CAUSEWAY RIGHT FF	-18.	15.	747.	658.	1000.	50.	AG	380.	36.1	0.0	9.7	0.00	0.0
4. MERRIMAC ST FF	0.	-27.	1000.	-27.	1000.	90.	AG	1230.	36.1	0.0	24.3	0.00	0.0
5. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1495.	28.9	0.0	24.3	0.00	0.0
6. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	6260.	28.9	7.6	24.3	0.00	0.0
7. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	6260.	28.9	7.6	24.3	0.00	0.0
8. LOMASNEY WAY THRU Q	-23.	8.	-36.	18.	17.	309.	AG	1451.	100.0	0.0	12.1	0.34	2.8
9. LOMASNEY WAY LEFT Q	-18.	9.	-36.	23.	22.	310.	AG	725.	100.0	0.0	9.1	0.44	3.7
10. CAUSEWAY THRU/LEFT Q	-3.	24.	11.	36.	18.	50.	AG	1641.	100.0	0.0	12.1	0.39	3.0
11. STANIFORD ST Q	5.	-26.	5.	-70.	44.	180.	AG	1475.	100.0	0.0	12.1	0.78	7.4
12. MERRIMAC STREET QUEU	14.	-21.	64.	-21.	50.	90.	AG	1736.	100.0	0.0	12.1	0.91	8.4

WARNING: THE LENGTH (22. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (17. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (44. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (18. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (50. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (44. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	43.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8
5. PROPOSED HOUSING	-24.	-15.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1995 BUILD 1-HR PM CAUSE/LOM/STAN/MER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	5.8	8.8	6.6	9.9	9.1
10.	5.6	8.2	6.3	9.5	8.6
20.	5.3	7.6	6.1	9.4	8.3
30.	5.1	7.5	6.0	9.2	8.4
40.	5.4	7.7	6.0	9.2	8.4
50.	6.0	7.4	5.7	8.8	7.9
60.	6.4	6.4	5.2	8.0	7.2
70.	6.4	5.6	5.1	7.4	6.8
80.	6.5	5.5	5.6	6.8	7.8
90.	7.0	5.7	6.6	6.2	9.0
100.	7.7	5.9	7.8	5.5	9.5
110.	8.4	6.2	8.9	5.1	8.9
120.	9.2	6.7	9.6	5.0	8.5
130.	9.9	7.1	10.0	5.0	8.2
140.	10.4	7.5	9.8	5.0	8.0
150.	10.5	7.8	9.8	5.0	7.5
160.	10.3	8.0	9.7	5.1	6.9
170.	9.9	8.6	10.2	5.3	6.4
180.	9.4	9.1	11.0	5.8	5.9
190.	8.4	9.0	11.8	6.3	5.3
200.	8.0	8.0	11.8	6.6	5.1
210.	7.8	7.2	10.9	7.0	5.0
220.	7.6	6.9	9.7	7.6	5.0
230.	7.2	7.2	8.3	8.1	5.0
240.	6.7	7.6	7.1	8.4	5.0
250.	6.2	8.3	6.3	8.4	5.0
260.	6.1	9.1	6.2	8.4	5.0
270.	6.3	9.7	6.7	8.5	5.0
280.	6.8	10.1	7.6	8.8	5.2
290.	7.4	10.5	8.8	9.3	5.6
300.	7.3	10.8	9.6	10.2	6.3
310.	6.8	10.8	9.3	11.1	7.1
320.	6.2	10.5	8.4	10.9	7.7
330.	5.8	10.3	7.7	10.5	8.2
340.	5.8	9.7	7.4	10.1	8.8
350.	5.8	9.4	6.9	10.1	8.9
360.	5.8	8.8	6.6	9.9	9.1
MAX.	10.5 150 DEGR.	10.8 300 DEGR.	11.8 200 DEGR.	11.1 310 DEGR.	9.5 100 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	10.5	150	10.8	300	11.8	200	11.1	310	9.5	100

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1995 BUILD 8-HR PM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	1639.	17.3	0.0	19.4	0.00	0.0
2. CAUSEWAY ST RT/LT FF	-9.	9.	757.	652.	1000.	50.	AG	932.	17.3	0.0	19.4	0.00	0.0
3. CAUSEWAY RIGHT FF	-18.	15.	747.	658.	1000.	50.	AG	300.	17.3	0.0	9.7	0.00	0.0
4. MERRIMAC ST FF	0.	-27.	1000.	-27.	1000.	90.	AG	972.	17.3	0.0	24.3	0.00	0.0
5. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1181.	17.3	0.0	24.3	0.00	0.0
6. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	4945.	14.4	7.6	24.3	0.00	0.0
7. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	4945.	14.4	7.6	24.3	0.00	0.0
8. LOMASNEY WAY THRU Q	-23.	8.	-33.	16.	13.	308.	AG	907.	100.0	0.0	12.1	0.27	2.2
9. LOMASNEY WAY LEFT Q	-18.	9.	-32.	20.	17.	310.	AG	454.	100.0	0.0	9.1	0.35	2.9
10. CAUSEWAY THRU/LEFT Q	-3.	24.	8.	33.	14.	50.	AG	1026.	100.0	0.0	12.1	0.31	2.3
11. STANIFORD ST Q	5.	-26.	5.	-58.	32.	180.	AG	922.	100.0	0.0	12.1	0.61	5.3
12. MERRIMAC STREET QUEU	14.	-21.	46.	-21.	33.	90.	AG	1086.	100.0	0.0	12.1	0.72	5.4

WARNING: THE LENGTH (17. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (13. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (32. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (14. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (33. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (32. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	43.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8
5. PROPOSED HOUSING	-24.	-15.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1995 BUILD 8-HR PM CAUSE/LOM/STAN/TER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	3.3	4.3	3.7	5.5	5.0
10.	3.2	4.1	3.5	5.3	4.8
20.	3.1	3.9	3.4	5.2	4.7
30.	3.0	3.9	3.4	5.0	4.5
40.	3.2	4.0	3.4	4.6	4.4
50.	3.4	3.9	3.2	4.2	4.3
60.	3.5	3.5	3.1	3.8	3.8
70.	3.5	3.2	3.0	3.7	3.8
80.	3.4	3.2	3.2	3.6	4.3
90.	3.6	3.3	3.5	3.4	4.8
100.	3.9	3.4	3.8	3.2	5.1
110.	4.2	3.4	4.3	3.1	5.0
120.	4.7	3.5	4.7	3.0	4.8
130.	5.2	3.7	5.2	3.0	4.6
140.	5.5	4.0	5.6	3.0	4.5
150.	5.7	4.2	5.7	3.0	4.1
160.	5.8	4.4	5.6	3.0	3.8
170.	5.5	4.9	5.9	3.2	3.6
180.	5.2	5.2	6.3	3.4	3.4
190.	4.8	4.9	6.5	3.5	3.2
200.	4.5	4.5	6.6	3.5	3.0
210.	4.3	4.0	6.2	3.6	3.0
220.	4.3	3.9	5.5	3.8	3.0
230.	4.0	3.9	4.7	4.0	3.0
240.	3.7	4.3	4.1	4.4	3.0
250.	3.5	4.5	3.7	4.7	3.0
260.	3.5	4.8	3.6	4.9	3.0
270.	3.6	5.1	3.7	5.0	3.0
280.	3.8	5.4	4.3	5.1	3.1
290.	4.0	5.5	4.7	5.5	3.2
300.	4.1	5.8	5.0	5.7	3.5
310.	3.8	5.8	4.8	6.0	3.8
320.	3.5	5.7	4.5	6.0	4.1
330.	3.3	5.5	4.1	5.7	4.4
340.	3.3	5.2	4.0	5.6	4.7
350.	3.3	4.8	3.9	5.4	5.0
360.	3.3	4.3	3.7	5.5	5.0
MAX.	5.8 160 DEGR.	5.8 300 DEGR.	6.6 200 DEGR.	6.0 310 DEGR.	5.1 100 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	5.8	160	5.8	300	6.6	200	6.0	310	5.1	100

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1995 NO-BUILD 1-HR PM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	2065.	28.9	0.0	19.4	0.00	0.0
2. CAUSEWAY ST TH/LT FF	-9.	9.	757.	652.	1000.	50.	AG	1110.	36.1	0.0	19.4	0.00	0.0
3. CAUSEWAY RIGHT FF	-18.	15.	747.	658.	1000.	50.	AG	380.	36.1	0.0	9.7	0.00	0.0
4. MERRIMAC ST FF	0.	-27.	1000.	-27.	1000.	90.	AG	1195.	36.1	0.0	24.3	0.00	0.0
5. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1450.	28.9	0.0	24.3	0.00	0.0
6. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	6100.	28.9	7.6	24.3	0.00	0.0
7. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	6100.	28.9	7.6	24.3	0.00	0.0
8. LOMASNEY WAY THRU Q	-23.	8.	-36.	18.	17.	309.	AG	1451.	100.0	0.0	12.1	0.34	2.8
9. LOMASNEY WAY LEFT Q	-18.	9.	-36.	23.	22.	310.	AG	725.	100.0	0.0	9.1	0.44	3.7
10. CAUSEWAY THRU/LEFT Q	-3.	24.	8.	34.	15.	50.	AG	1641.	100.0	0.0	12.1	0.32	2.4
11. STANIFORD ST Q	5.	-26.	5.	-69.	43.	180.	AG	1475.	100.0	0.0	12.1	0.76	7.2
12. MERRIMAC STREET QUEU	14.	-21.	64.	-21.	50.	90.	AG	1736.	100.0	0.0	12.1	0.91	8.4

WARNING: THE LENGTH (22. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (17. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (43. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (15. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (50. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (43. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	43.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8
5. PROPOSED HOUSING	-24.	-15.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1995 NO-BUILD 1-HR PM CAUSE/LOM/STAN/MER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	5.8	8.1	6.4	9.9	9.0
10.	5.5	7.7	6.2	9.5	8.6
20.	5.2	7.3	6.0	9.3	8.2
30.	5.1	7.3	6.0	9.2	8.2
40.	5.4	7.5	6.0	9.1	8.2
50.	6.0	7.3	5.6	8.8	7.7
60.	6.3	6.4	5.2	8.0	7.1
70.	6.3	5.6	5.1	7.3	6.7
80.	6.3	5.4	5.6	6.8	7.7
90.	6.7	5.6	6.6	6.2	9.0
100.	7.0	5.9	7.8	5.5	9.4
110.	7.8	6.2	8.8	5.1	8.9
120.	8.6	6.7	9.5	5.0	8.4
130.	9.4	7.1	10.0	5.0	8.2
140.	10.2	7.5	9.8	5.0	7.9
150.	10.5	7.8	9.7	5.0	7.5
160.	10.1	8.0	9.7	5.1	6.9
170.	9.7	8.5	10.2	5.3	6.4
180.	9.3	9.1	10.8	5.8	5.9
190.	8.2	8.9	11.6	6.2	5.3
200.	8.0	8.0	11.6	6.5	5.1
210.	7.8	7.2	10.9	6.9	5.0
220.	7.6	6.9	9.7	7.4	5.0
230.	7.2	7.1	8.2	8.0	5.0
240.	6.7	7.6	7.1	8.2	5.0
250.	6.2	8.2	6.3	8.4	5.0
260.	6.1	9.0	6.2	8.4	5.0
270.	6.3	9.6	6.6	8.5	5.0
280.	6.8	10.0	7.6	8.8	5.2
290.	7.4	10.5	8.7	9.3	5.6
300.	7.3	10.7	9.5	10.2	6.3
310.	6.8	10.5	9.3	10.8	6.9
320.	6.2	10.2	8.4	10.9	7.6
330.	5.8	9.9	7.6	10.4	8.2
340.	5.8	9.2	7.2	10.0	8.8
350.	5.8	8.7	6.8	10.0	8.9
360.	5.8	8.1	6.4	9.9	9.0
MAX.	10.5 150 DEGR.	10.7 300 DEGR.	11.6 190 DEGR.	10.9 320 DEGR.	9.4 100 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	10.5	150	10.7	300	11.6	190	10.9	320	9.4	100

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1995 NO-BUILD 8-HR PM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	1631.	17.3	0.0	19.4	0.00	0.0
2. CAUSEWAY ST RT/LT FF	-9.	9.	757.	652.	1000.	50.	AG	877.	17.3	0.0	19.4	0.00	0.0
3. CAUSEWAY RIGHT FF	-18.	15.	747.	658.	1000.	50.	AG	300.	17.3	0.0	9.7	0.00	0.0
4. MERRIMAC ST FF	0.	-27.	1000.	-27.	1000.	90.	AG	944.	17.3	0.0	24.3	0.00	0.0
5. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1146.	17.3	0.0	24.3	0.00	0.0
6. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	4819.	14.4	7.6	24.3	0.00	0.0
7. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	4819.	14.4	7.6	24.3	0.00	0.0
8. LOMASNEY WAY THRU Q	-23.	8.	-33.	16.	13.	308.	AG	907.	100.0	0.0	12.1	0.27	2.2
9. LOMASNEY WAY LEFT Q	-18.	9.	-32.	20.	17.	310.	AG	454.	100.0	0.0	9.1	0.35	2.9
10. CAUSEWAY THRU/LEFT Q	-3.	24.	6.	32.	11.	50.	AG	1026.	100.0	0.0	12.1	0.25	1.9
11. STANIFORD ST Q	5.	-26.	5.	-57.	31.	180.	AG	922.	100.0	0.0	12.1	0.60	5.2
12. MERRIMAC STREET QUEU	14.	-21.	46.	-21.	33.	90.	AG	1086.	100.0	0.0	12.1	0.72	5.4

WARNING: THE LENGTH (17. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (13. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (31. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (11. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (33. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (31. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	43.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8
5. PROPOSED HOUSING	-24.	-15.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1995 NO-BUILD 8-HR PM CAUSE/LOM/STAN/MER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	3.3	4.1	3.6	5.4	4.9
10.	3.2	3.9	3.5	5.3	4.7
20.	3.1	3.7	3.4	5.2	4.7
30.	3.0	3.9	3.4	5.0	4.4
40.	3.2	3.9	3.4	4.6	4.3
50.	3.4	3.9	3.2	4.1	4.2
60.	3.4	3.5	3.1	3.8	3.8
70.	3.4	3.2	3.0	3.6	3.8
80.	3.4	3.2	3.2	3.6	4.2
90.	3.5	3.3	3.4	3.4	4.8
100.	3.8	3.4	3.8	3.2	5.1
110.	4.0	3.4	4.3	3.1	5.0
120.	4.4	3.5	4.7	3.0	4.8
130.	4.9	3.7	5.2	3.0	4.6
140.	5.3	4.0	5.6	3.0	4.4
150.	5.6	4.2	5.7	3.0	4.1
160.	5.6	4.4	5.6	3.0	3.8
170.	5.5	4.9	5.9	3.2	3.6
180.	5.2	5.2	6.2	3.4	3.4
190.	4.7	4.9	6.4	3.5	3.2
200.	4.4	4.5	6.6	3.5	3.0
210.	4.3	4.0	6.2	3.6	3.0
220.	4.3	3.9	5.5	3.7	3.0
230.	4.0	3.9	4.7	4.0	3.0
240.	3.7	4.2	4.0	4.3	3.0
250.	3.5	4.5	3.7	4.6	3.0
260.	3.5	4.7	3.6	4.9	3.0
270.	3.6	5.1	3.7	5.0	3.0
280.	3.8	5.3	4.1	5.1	3.1
290.	4.0	5.4	4.7	5.5	3.2
300.	4.0	5.7	5.0	5.6	3.5
310.	3.8	5.6	4.8	6.0	3.8
320.	3.5	5.5	4.4	6.0	4.1
330.	3.3	5.1	4.0	5.6	4.4
340.	3.3	4.8	3.9	5.5	4.7
350.	3.3	4.5	3.7	5.4	5.0
360.	3.3	4.1	3.6	5.4	4.9
MAX.	5.6 160 DEGR.	5.7 300 DEGR.	6.6 200 DEGR.	6.0 310 DEGR.	5.1 100 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	5.6	160	5.7	300	6.6	200	6.0	310	5.1	100

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 1995 1-HR PM BUILD CAUSEWAY/CANAL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAUSEWAY N FF	0.	0.	0.	1000.	1000.	360.	AG	1710.	36.1	0.0	28.9	0.00	0.0
2. CAUSEWAY S FF	0.	0.	0.	-1000.	1000.	180.	AG	1715.	36.1	0.0	28.9	0.00	0.0
3. CANAL ST FF	0.	0.	1000.	0.	1000.	90.	AG	285.	28.9	0.0	12.1	0.00	0.0
4. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-152.	152.	180.	BR	6260.	28.9	7.6	24.3	0.00	0.0
5. RAMPS T/F LEVER/I-93	-179.	0.	-179.	152.	152.	360.	BR	6260.	28.9	7.6	24.3	0.00	0.0
6. I-93 NB/SB	0.	152.	-183.	152.	183.	270.	BR	6710.	24.0	7.6	32.6	0.00	0.0
7. I-93 NB/SB	0.	152.	305.	152.	305.	90.	BR	6710.	24.0	7.6	32.6	0.00	0.0
8. NB I-93 OFF-RAMP	0.	152.	-183.	152.	183.	270.	BR	720.	28.9	7.6	13.6	0.00	0.0
9. CANAL ST Q	18.	2.	118.	2.	100.	90.	AG	140.	73.0	0.0	12.1	0.00	0.0

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SPORTS CAFE	-15.	-6.	1.8
2. T STATION	15.	11.	1.8
3. 125 CAUSEWAY	14.	-12.	1.8
4. FUTURE PORTAL ENTRAN	-23.	0.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 1995 1-HR PM BUILD CAUSEWAY/CANAL

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	8.1	8.2	8.6	7.2
10.	8.5	7.2	7.4	7.6
20.	8.2	6.3	6.6	7.5
30.	8.0	6.1	6.3	7.4
40.	7.8	6.1	6.2	7.4
50.	7.6	6.0	6.1	7.3
60.	7.5	5.8	6.1	7.0
70.	7.2	5.4	5.8	6.9
80.	7.2	5.3	5.5	6.6
90.	7.2	5.4	5.3	6.7
100.	6.9	5.6	5.2	6.6
110.	6.6	5.7	5.1	6.4
120.	6.6	5.6	5.1	6.3
130.	6.7	5.5	5.2	6.3
140.	6.9	5.5	5.2	6.5
150.	7.1	5.5	5.3	6.6
160.	7.5	5.7	5.6	6.8
170.	7.7	6.5	6.4	6.8
180.	7.3	7.7	7.5	6.3
190.	6.3	8.0	7.8	5.6
200.	5.5	7.8	7.6	5.1
210.	5.3	7.4	7.2	5.1
220.	5.4	7.4	7.1	5.3
230.	5.6	7.4	7.1	5.6
240.	5.8	7.4	7.1	5.8
250.	5.8	7.5	7.2	5.8
260.	5.8	7.3	7.3	5.9
270.	5.9	7.4	7.5	5.8
280.	5.8	7.3	7.4	5.9
290.	5.9	7.3	7.6	5.8
300.	5.9	7.4	7.7	5.9
310.	6.0	7.8	8.0	6.0
320.	6.0	7.9	8.2	6.0
330.	6.1	8.1	8.4	6.0
340.	6.3	8.3	8.7	6.0
350.	7.1	8.6	9.0	6.6
360.	8.1	8.2	8.6	7.2
MAX.	8.5 10 DEGR.	8.6 350 DEGR.	9.0 350 DEGR.	7.6 10 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	8.5	10	8.6	350	9.0	350	7.6	10

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 1995 8-HR PM BUILD CAUSEWAY/CANAL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAUSEWAY N FF	0.	0.	0.	1000.	1000.	360.	AG	1351.	17.3	0.0	28.9	0.00	0.0
2. CAUSEWAY S FF	0.	0.	0.	-1000.	1000.	180.	AG	1355.	17.3	0.0	28.9	0.00	0.0
3. CANAL ST FF	0.	0.	1000.	0.	1000.	90.	AG	225.	17.3	0.0	12.1	0.00	0.0
4. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-152.	152.	180.	BR	4945.	14.4	7.6	24.3	0.00	0.0
5. RAMPS T/F LEVER/I-93	-179.	0.	-179.	152.	152.	360.	BR	4945.	14.4	7.6	24.3	0.00	0.0
6. I-93 NB/SB	0.	152.	-183.	152.	183.	270.	BR	5301.	9.7	7.6	32.6	0.00	0.0
7. I-93 NB/SB	0.	152.	305.	152.	305.	90.	BR	5301.	9.7	7.6	32.6	0.00	0.0
8. NB I-93 OFF-RAMP	0.	152.	-183.	152.	183.	270.	BR	569.	14.4	7.6	13.6	0.00	0.0
9. CANAL ST Q	18.	2.	118.	2.	100.	90.	AG	111.	121.0	0.0	12.1	0.00	0.0

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SPORTS CAFE	-15.	-6.	1.8
2. T STATION	15.	11.	1.8
3. 125 CAUSEWAY	14.	-12.	1.8
4. FUTURE PORTAL ENTRAN	-23.	0.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 1995 8-HR PM BUILD CAUSEWAY/CANAL

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	4.1	4.2	4.5	3.8
10.	4.3	3.7	3.9	3.9
20.	4.1	3.5	3.6	3.9
30.	4.1	3.4	3.6	3.9
40.	4.1	3.4	3.7	3.9
50.	4.0	3.4	3.6	3.8
60.	4.1	3.2	3.7	3.7
70.	4.0	3.1	3.5	3.8
80.	4.0	3.2	3.4	3.8
90.	4.0	3.4	3.3	3.8
100.	3.8	3.5	3.2	3.6
110.	3.6	3.6	3.0	3.6
120.	3.6	3.6	3.0	3.5
130.	3.6	3.5	3.1	3.5
140.	3.7	3.4	3.1	3.6
150.	3.8	3.4	3.1	3.6
160.	3.9	3.4	3.2	3.7
170.	4.0	3.7	3.5	3.7
180.	3.9	4.0	3.9	3.5
190.	3.5	4.2	4.1	3.2
200.	3.2	4.0	4.0	3.0
210.	3.1	4.0	3.8	3.0
220.	3.2	4.0	3.7	3.1
230.	3.3	3.9	3.8	3.2
240.	3.3	3.9	3.8	3.3
250.	3.3	3.9	3.9	3.3
260.	3.4	3.9	3.9	3.4
270.	3.3	3.9	3.9	3.4
280.	3.3	3.9	3.9	3.4
290.	3.3	3.9	3.9	3.3
300.	3.3	3.9	4.0	3.3
310.	3.3	4.0	4.1	3.3
320.	3.3	4.0	4.1	3.3
330.	3.2	4.1	4.2	3.3
340.	3.3	4.1	4.3	3.3
350.	3.6	4.3	4.5	3.4
360.	4.1	4.2	4.5	3.8
MAX.	4.3 10 DEGR.	4.3 350 DEGR.	4.5 0 DEGR.	3.9 10 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	4.3	10	4.3	350	4.5	0	3.9	10

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 1995 1-HR PM NO-BUILD CAUSEWAY/CANAL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAUSEWAY N FF	0.	0.	0.	1000.	1000.	360.	AG	1640.	36.1	0.0	28.9	0.00	0.0
2. CAUSEWAY S FF	0.	0.	0.	-1000.	1000.	180.	AG	1645.	36.1	0.0	28.9	0.00	0.0
3. CANAL ST FF	0.	0.	1000.	0.	1000.	90.	AG	285.	28.9	0.0	12.1	0.00	0.0
4. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-152.	152.	180.	BR	6260.	28.9	7.6	24.3	0.00	0.0
5. RAMPS T/F LEVER/I-93	-179.	0.	-179.	152.	152.	360.	BR	6260.	28.9	7.6	24.3	0.00	0.0
6. I-93 NB/SB	0.	152.	-183.	152.	183.	270.	BR	6710.	24.0	7.6	32.6	0.00	0.0
7. I-93 NB/SB	0.	152.	305.	152.	305.	90.	BR	6710.	24.0	7.6	32.6	0.00	0.0
8. NB I-93 OFF-RAMP	0.	152.	-183.	152.	183.	270.	BR	720.	28.9	7.6	13.6	0.00	0.0
9. CANAL ST Q	18.	2.	118.	2.	100.	90.	AG	140.	79.0	0.0	12.1	0.00	0.0

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SPORTS CAFE	-15.	-6.	1.8
2. T STATION	15.	11.	1.8
3. 125 CAUSEWAY	14.	-12.	1.8
4. FUTURE PORTAL ENTRAN	-23.	0.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 1995 1-HR PM NO-BUILD CAUSEWAY/CANAL

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	8.0	8.1	8.5	7.2
10.	8.4	7.1	7.4	7.6
20.	8.1	6.3	6.6	7.4
30.	7.9	6.1	6.3	7.4
40.	7.6	6.1	6.2	7.3
50.	7.6	6.0	6.2	7.3
60.	7.3	5.8	6.1	7.0
70.	7.2	5.4	5.8	6.8
80.	7.2	5.3	5.5	6.6
90.	7.1	5.4	5.3	6.7
100.	6.8	5.7	5.2	6.5
110.	6.5	5.7	5.1	6.4
120.	6.5	5.7	5.1	6.3
130.	6.6	5.5	5.2	6.3
140.	6.8	5.5	5.2	6.4
150.	7.1	5.5	5.3	6.6
160.	7.4	5.7	5.6	6.7
170.	7.6	6.4	6.3	6.8
180.	7.2	7.5	7.4	6.3
190.	6.2	7.9	7.7	5.5
200.	5.5	7.6	7.5	5.1
210.	5.3	7.2	7.1	5.1
220.	5.4	7.3	7.0	5.3
230.	5.6	7.4	7.0	5.6
240.	5.8	7.4	7.1	5.8
250.	5.8	7.4	7.2	5.8
260.	5.8	7.3	7.2	5.9
270.	5.9	7.4	7.4	5.8
280.	5.8	7.2	7.3	5.9
290.	5.9	7.3	7.5	5.8
300.	5.9	7.3	7.6	5.9
310.	6.0	7.8	7.9	6.0
320.	6.0	7.8	8.2	6.0
330.	6.1	8.0	8.3	6.0
340.	6.3	8.2	8.6	6.0
350.	7.0	8.5	8.9	6.5
360.	8.0	8.1	8.5	7.2
MAX.	8.4 10 DEGR.	8.5 350 DEGR.	8.9 350 DEGR.	7.6 10 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	8.4	10	8.5	350	8.9	350	7.6	10

JOB: CALDWAY NEW BOSTON GARDEN (#5) RUN: 1995 8-HR PM NO-BUILD CAUSEWAY CANAL
TITLE: SITE VARIABLES

U = [illegible] M/S VAS = [illegible] VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
ZO = 521. [illegible] VD = 0.0 CM/S AMB = 3.0 PPM
TITLE: [illegible]

LINK DESCRIPTION	LINK COORDINATES (M)				LINK LENGTH (M)	LINK BRG (DEGS)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
	X1	Y1	X2	Y2									
1. CAUSEWAY N FF	0.	0.	0.	1000.	1000.	360.	AG	1296.	17.3	0.0	28.9	0.00	0.0
2. CAUSEWAY S FF	0.	0.	0.	-1000.	1000.	180.	AG	1300.	17.3	0.0	28.9	0.00	0.0
3. CANAL ST FF	0.	0.	1000.	0.	1000.	90.	AG	225.	17.3	0.0	12.1	0.00	0.0
4. RAMPS [illegible]	-179.	0.	-179.	-152.	152.	180.	SR	4945.	14.4	7.6	24.3	0.00	0.0
5. RAMPS [illegible]	-179.	0.	-179.	152.	152.	360.	SR	4945.	14.4	7.6	24.3	0.00	0.0
6. I-93 NB SR	0.	152.	-183.	152.	183.	270.	SR	5301.	9.7	7.6	32.6	0.00	0.0
7. I-93 NB SR	0.	152.	305.	152.	305.	90.	SR	5301.	9.7	7.6	32.6	0.00	0.0
8. NB I-93 OFF-RAMP	0.	152.	-183.	152.	183.	270.	SR	569.	14.4	7.6	13.6	0.00	0.0
9. CANAL ST Q	26.	1.	118.	1.	100.	90.	AG	111.	121.0	0.0	12.1	0.00	0.0

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M)			
	X	Y	Z	
1. SPORTS CNTR	-25.	-6.	1.8	*
2. T STATION	25.	11.	1.8	*
3. 225 CAUSEWAY	14.	-17.	1.8	*
4. FUTURE TOWER [illegible]	-23	3.	1.8	*

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM)			
	REC1	REC2	REC3	REC4
0.	4.1	4.1	4.4	3.8
10.	4.3	3.7	3.9	3.9
20.	4.1	3.5	3.6	3.9
30.	4.0	3.4	3.6	3.9
40.	4.0	3.4	3.7	3.8
50.	3.9	3.4	3.6	3.8
60.	4.0	3.2	3.7	3.6
70.	4.0	3.1	3.5	3.8
80.	3.9	3.2	3.4	3.7
90.	3.9	3.4	3.3	3.7
100.	3.7	3.5	3.2	3.6
110.	3.5	3.6	3.0	3.6
120.	3.6	3.6	3.0	3.4
130.	3.6	3.5	3.1	3.5
140.	3.7	3.4	3.1	3.5
150.	3.8	3.4	3.1	3.6
160.	3.9	3.4	3.2	3.7
170.	4.0	3.7	3.5	3.7
180.	3.9	4.0	3.9	3.5
190.	3.5	4.1	4.0	3.2
200.	3.2	4.0	3.9	3.0
210.	3.1	3.8	3.8	3.0
220.	3.2	3.9	3.7	3.1
230.	3.3	3.9	3.7	3.2
240.	3.3	3.9	3.8	3.3
250.	3.3	3.9	3.9	3.3
260.	3.4	3.9	3.9	3.4
270.	3.3	3.9	3.9	3.4
280.	3.3	3.9	3.9	3.4
290.	3.3	3.9	3.9	3.3
300.	3.3	3.9	3.9	3.3
310.	3.3	3.9	4.1	3.3
320.	3.3	4.0	4.1	3.3
330.	3.2	4.1	4.1	3.3
340.	3.3	4.1	4.3	3.2
350.	3.6	4.3	4.4	3.4
360.	4.1	4.1	4.4	3.8
MAX.	4.3 10 DEGR.	4.3 350 DEGR.	4.4 0 DEGR.	3.9 10 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES)							
	REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	4.3	10	4.3	350	4.4	0	3.9	10

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 1995 BUILD 1-HR PM CAUSEWAY/HAVER/ACCOL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. ACCOLON WAY FF	0.	0.	-1000.	0.	1000.	270.	AG	485.	36.1	0.0	13.6	0.00	0.0
2. CAUSEWAY ST E FF	0.	0.	0.	1000.	1000.	360.	AG	1950.	36.1	0.0	28.1	0.00	0.0
3. I-93 RAMP FF	0.	21.	1000.	21.	1000.	90.	AG	350.	36.1	0.0	10.6	0.00	0.0
4. I-93 RAMP FF	8.	8.	22.	21.	18.	48.	AG	150.	36.1	0.0	10.3	0.00	0.0
5. HAVERHILL ST FF	0.	0.	1000.	0.	1000.	90.	AG	140.	28.9	0.0	13.6	0.00	0.0
6. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-213.	213.	180.	BR	6260.	28.9	7.6	24.3	0.00	0.0
7. RAMPS T/F LEVER/I-93	-179.	0.	-179.	91.	91.	360.	BR	6260.	28.9	7.6	24.3	0.00	0.0
8. I-93 NB/SB	0.	91.	-183.	91.	183.	270.	BR	6710.	24.0	7.6	32.6	0.00	0.0
9. I-93 NB/SB	0.	0.	305.	91.	318.	73.	BR	6710.	24.0	7.6	32.6	0.00	0.0
10. NB I-93 OFF-RAMP	0.	91.	-183.	91.	183.	270.	BR	720.	28.9	7.6	13.6	0.00	0.0
11. CAUSEWAY ST W FF	0.	0.	0.	-1000.	1000.	180.	AG	1715.	36.1	0.0	28.1	0.00	0.0
12. HAVERHILL ST Q	9.	2.	19.	2.	10.	90.	AG	484.	100.0	0.0	9.8	0.40	1.7
13. ACCOLON WAY Q	-16.	-2.	-1094.	-2.	1078.	270.	AG	1189.	100.0	0.0	9.8	****	179.6

WARNING: THE LENGTH (1078. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (10. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SHOE REPAIR SHOP	-16.	-14.	1.8
2. GARDEN DELI	-18.	8.	1.8
3. T STATION	14.	-27.	1.8
4. PARK RECEPTOR	-16.	23.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 1995 BUILD 1-HR PM CAUSEWAY/HAVER/ACCOL

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	10.1	8.2	10.1	8.6
10.	9.9	8.5	8.6	8.9
20.	9.1	7.8	7.8	8.1
30.	8.8	7.3	7.8	7.5
40.	8.9	7.2	7.9	7.1
50.	10.0	7.5	8.1	7.0
60.	11.0	8.5	8.1	7.4
70.	11.2	10.3	7.3	8.4
80.	10.0	11.3	6.2	9.8
90.	8.4	11.1	5.4	10.6
100.	7.2	10.0	5.0	10.1
110.	6.6	9.0	5.1	9.5
120.	6.6	8.3	5.1	9.1
130.	6.7	8.1	5.2	8.9
140.	6.8	7.9	5.2	8.4
150.	7.1	7.9	5.3	8.3
160.	7.4	8.6	5.5	8.2
170.	7.6	9.3	6.3	8.6
180.	7.2	9.5	7.4	8.5
190.	6.1	9.0	7.8	7.7
200.	5.4	8.7	7.6	7.2
210.	5.4	9.1	7.3	7.5
220.	5.6	9.6	7.3	7.9
230.	5.9	10.2	7.3	8.2
240.	6.0	10.7	7.3	8.4
250.	6.3	11.3	7.3	8.5
260.	7.6	11.5	8.1	8.7
270.	9.6	10.6	9.5	7.9
280.	10.4	8.5	10.0	6.9
290.	10.3	7.0	9.7	6.5
300.	10.2	6.6	9.6	6.7
310.	10.0	6.5	9.4	6.8
320.	9.6	6.5	9.1	6.7
330.	9.4	6.4	9.6	6.7
340.	9.2	6.5	10.0	6.9
350.	9.6	7.2	10.6	7.7
360.	10.1	8.2	10.1	8.6
MAX.	11.2 70 DEGR.	11.5 260 DEGR.	10.6 350 DEGR.	10.6 90 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	11.2	70	11.5	260	10.6	350	10.6	90

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 1995 BUILD 8-HR PM CAUSE/HAVER/ACCOL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. ACCOLON WAY FF	0.	0.	-1000.	0.	1000.	270.	AG	383.	17.3	0.0	13.6	0.00	0.0
2. CAUSEWAY ST E FF	0.	0.	0.	1000.	1000.	360.	AG	1541.	17.3	0.0	28.1	0.00	0.0
3. I-93 RAMP FF	0.	21.	1000.	21.	1000.	90.	AG	277.	17.3	0.0	10.6	0.00	0.0
4. I-93 RAMP FF	8.	8.	22.	21.	18.	48.	AG	119.	17.3	0.0	10.3	0.00	0.0
5. HAVERHILL ST FF	0.	0.	1000.	0.	1000.	90.	AG	111.	17.3	0.0	13.6	0.00	0.0
6. CAUSEWAY ST W FF	0.	0.	0.	-1000.	1000.	180.	AG	1315.	17.3	0.0	28.1	0.00	0.0
7. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-213.	213.	180.	BR	4945.	14.4	7.6	24.3	0.00	0.0
8. RAMPS T/F LEVER/I-93	-179.	0.	-179.	91.	91.	360.	BR	4945.	14.4	7.6	24.3	0.00	0.0
9. I-93 NB/SB	0.	91.	-183.	91.	183.	270.	BR	5301.	9.7	7.6	32.6	0.00	0.0
10. I-93 NB/SB	0.	91.	305.	91.	305.	90.	BR	5301.	9.7	7.6	32.6	0.00	0.0
11. NB I-93 OFF-RAMP	0.	91.	-183.	91.	183.	270.	BR	569.	14.4	7.6	13.6	0.00	0.0
12. HAVERHILL ST Q	12.	2.	22.	2.	10.	90.	AG	121.	100.0	0.0	9.8	0.21	1.7
13. ACCOLON WAY Q	-16.	-2.	-779.	-2.	763.	270.	AG	744.	100.0	0.0	9.8	5.06	127.1

WARNING: THE LENGTH (763. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (10. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SHOE REPAIR SHOP	-16.	-14.	1.8
2. GARDEN DELI	-18.	8.	1.8
3. T STATION	14.	-27.	1.8
4. PARK RECEPTOR	-16.	23.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 1995 BUILD 8-HR PM CAUSE/HAVER/ACCOL

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	5.3	4.2	4.4	4.3
10.	5.2	4.4	4.0	4.5
20.	4.7	4.4	3.6	4.4
30.	4.4	4.2	3.4	4.4
40.	4.3	4.2	3.4	4.2
50.	4.3	4.2	3.5	4.2
60.	4.2	4.1	3.4	4.2
70.	4.1	4.1	3.3	4.2
80.	3.9	4.0	3.2	4.1
90.	3.7	4.0	3.0	4.0
100.	3.6	4.0	3.0	3.9
110.	3.6	3.8	3.0	3.7
120.	3.6	3.8	3.0	3.7
130.	3.6	3.9	3.1	3.7
140.	3.7	4.1	3.1	3.7
150.	3.8	4.2	3.1	4.0
160.	3.9	4.6	3.2	4.1
170.	4.0	4.9	3.5	4.4
180.	3.8	5.2	3.9	4.4
190.	3.4	5.1	4.0	4.3
200.	3.1	5.1	4.0	4.2
210.	3.2	5.3	3.8	4.3
220.	3.2	5.5	3.8	4.5
230.	3.3	5.9	3.8	4.6
240.	3.3	6.1	3.9	4.7
250.	3.6	6.4	4.0	4.9
260.	4.3	6.6	4.3	4.9
270.	5.4	5.9	5.0	4.4
280.	5.9	4.8	5.4	3.8
290.	6.0	3.9	5.3	3.6
300.	5.8	3.5	5.0	3.6
310.	5.6	3.6	4.8	3.6
320.	5.3	3.5	4.5	3.7
330.	5.2	3.5	4.4	3.6
340.	5.1	3.6	4.2	3.7
350.	5.1	3.8	4.6	4.0
360.	5.3	4.2	4.4	4.3
MAX.	6.0 290 DEGR.	6.6 260 DEGR.	5.4 280 DEGR.	4.9 250 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	6.0	290	6.6	260	5.4	280	4.9	250

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 1995 NO-BUILD 1-HR PM CAUSEWY/HAVER/ACCO

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVC
1. ACCOLON WAY FF	0.	0.	-1000.	0.	1000.	270.	AG	395.	36.1	0.0	13.6	0.00	0.
2. CAUSEWAY ST E FF	0.	0.	0.	1000.	1000.	360.	AG	1765.	36.1	0.0	28.1	0.00	0.
3. I-93 RAMP FF	0.	21.	1000.	21.	1000.	90.	AG	495.	36.1	0.0	10.6	0.00	0.
4. I-93 RAMP FF	8.	8.	22.	21.	18.	48.	AG	285.	36.1	0.0	10.3	0.00	0.
5. HAVERHILL ST FF	0.	0.	1000.	0.	1000.	90.	AG	140.	28.9	0.0	13.6	0.00	0.
6. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-213.	213.	180.	BR	6100.	28.9	7.6	24.3	0.00	0.
7. RAMPS T/F LEVER/I-93	-179.	0.	-179.	91.	91.	360.	BR	6100.	28.9	7.6	24.3	0.00	0.
8. I-93 NB/SB	0.	91.	-183.	91.	183.	270.	BR	6670.	24.0	7.6	32.6	0.00	0.
9. I-93 NB/SB	0.	0.	305.	91.	318.	73.	BR	6670.	24.0	7.6	32.6	0.00	0.
10. NB I-93 OFF-RAMP	0.	91.	-183.	91.	183.	270.	BR	700.	28.9	7.6	13.6	0.00	0.
11. CAUSEWAY ST W FF	0.	0.	0.	-1000.	1000.	180.	AG	1645.	36.1	0.0	28.1	0.00	0.
12. HAVERHILL ST Q	9.	2.	19.	2.	10.	90.	AG	413.	100.0	0.0	9.8	0.36	1.
13. ACCOLON WAY Q	-16.	-2.	-520.	-2.	504.	270.	AG	1189.	100.0	0.0	9.8	5.00	84.

WARNING: THE LENGTH (504. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (10. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SHOE REPAIR SHOP	-16.	-14.	1.8
2. GARDEN DELI	-18.	8.	1.8
3. T STATION	14.	-27.	1.8
4. PARK RECEPTOR	-16.	23.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 1995 NO-BUILD 1-HR PM CAUSEWY/HAVER/ACCO

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	9.7	7.9	9.8	8.4
10.	9.5	8.2	8.7	8.6
20.	8.7	7.6	7.8	7.8
30.	8.5	7.1	7.8	7.3
40.	9.0	7.0	8.0	6.9
50.	9.9	7.4	8.2	6.8
60.	10.9	8.5	8.2	7.2
70.	11.2	10.3	7.3	8.3
80.	10.1	11.2	6.2	9.8
90.	8.4	11.0	5.4	10.8
100.	7.2	9.7	5.0	10.3
110.	6.5	8.9	5.1	9.5
120.	6.5	8.2	5.1	9.1
130.	6.6	7.8	5.1	8.8
140.	6.8	7.7	5.2	8.2
150.	7.0	7.8	5.2	8.2
160.	7.3	8.4	5.5	8.0
170.	7.5	9.1	6.3	8.3
180.	7.1	9.3	7.3	8.2
190.	6.1	8.8	7.7	7.4
200.	5.4	8.6	7.5	7.1
210.	5.4	9.0	7.2	7.3
220.	5.6	9.5	7.2	7.8
230.	5.8	10.1	7.2	8.2
240.	6.0	10.5	7.2	8.2
250.	6.2	11.1	7.3	8.4
260.	7.4	11.1	7.9	8.3
270.	9.1	10.0	9.0	7.5
280.	10.1	8.0	9.6	6.6
290.	10.2	6.9	9.5	6.5
300.	10.1	6.6	9.6	6.7
310.	9.8	6.5	9.2	6.8
320.	9.6	6.5	8.9	6.7
330.	9.3	6.4	9.4	6.6
340.	9.1	6.5	9.7	6.8
350.	9.4	7.1	10.4	7.5
360.	9.7	7.9	9.8	8.4
MAX.	11.2 70 DEGR.	11.2 80 DEGR.	10.4 350 DEGR.	10.8 90 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	11.2	70	11.2	80	10.4	350	10.8	90

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 1995 NO-BUILD 8-HR PM CASEWY/HAVER/ACCOL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG
1. ACCOLON WAY FF	0.	0.	-1000.	0.	1000.	270.	AG	312.	17.3	0.0	13.6	0.00	0.0
2. CAUSEWAY ST E FF	0.	0.	0.	1000.	1000.	360.	AG	1394.	17.3	0.0	28.1	0.00	0.0
3. I-93 RAMP FF	0.	21.	1000.	21.	1000.	90.	AG	391.	17.3	0.0	10.6	0.00	0.0
4. I-93 RAMP FF	8.	8.	22.	21.	18.	48.	AG	225.	17.3	0.0	10.3	0.00	0.0
5. HAVERHILL ST FF	0.	0.	1000.	0.	1000.	90.	AG	111.	17.3	0.0	13.6	0.00	0.0
6. CAUSEWAY ST W FF	0.	0.	0.	-1000.	1000.	180.	AG	1300.	17.3	0.0	28.1	0.00	0.0
7. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-213.	213.	180.	BR	4819.	14.4	7.6	24.3	0.00	0.0
8. RAMPS T/F LEVER/I-93	-179.	0.	-179.	91.	91.	360.	BR	4819.	14.4	7.6	24.3	0.00	0.0
9. I-93 NB/SB	0.	91.	-183.	91.	183.	270.	BR	5269.	9.7	7.6	32.6	0.00	0.0
10. I-93 NB/SB	0.	91.	305.	91.	305.	90.	BR	5269.	9.7	7.6	32.6	0.00	0.0
11. NB I-93 OFF-RAMP	0.	91.	-183.	91.	183.	270.	BR	553.	14.4	7.6	13.6	0.00	0.0
12. HAVERHILL ST Q	12.	2.	22.	2.	10.	90.	AG	111.	100.0	0.0	9.8	0.20	1.7
13. ACCOLON WAY Q	-16.	-2.	-379.	-2.	363.	270.	AG	744.	100.0	0.0	9.8	2.84	60.5

WARNING: THE LENGTH (363. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (10. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SHOE REPAIR SHOP	-16.	-14.	1.8
2. GARDEN DELI	-18.	8.	1.8
3. T STATION	14.	-27.	1.8
4. PARK RECEPTOR	-16.	23.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 1995 NO-BUILD 8-HR PM CASEWY/HAVER/ACCOL

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	5.1	4.1	4.5	4.2
10.	5.0	4.3	4.1	4.4
20.	4.6	4.3	3.6	4.3
30.	4.3	4.2	3.5	4.3
40.	4.3	4.1	3.5	4.1
50.	4.3	4.1	3.5	4.2
60.	4.2	4.1	3.4	4.1
70.	4.1	4.2	3.3	4.2
80.	3.9	3.9	3.2	4.1
90.	3.7	4.0	3.1	4.0
100.	3.6	3.9	3.0	3.8
110.	3.5	3.6	3.0	3.7
120.	3.6	3.8	3.0	3.8
130.	3.6	3.9	3.1	3.6
140.	3.7	4.0	3.1	3.7
150.	3.7	4.2	3.1	3.9
160.	3.9	4.6	3.2	4.0
170.	4.0	4.9	3.5	4.4
180.	3.8	5.2	3.9	4.4
190.	3.4	5.1	4.0	4.3
200.	3.1	5.1	3.9	4.1
210.	3.2	5.3	3.8	4.3
220.	3.2	5.5	3.8	4.5
230.	3.3	5.8	3.8	4.6
240.	3.3	6.0	3.9	4.7
250.	3.5	6.3	3.9	4.9
260.	4.2	6.3	4.2	4.6
270.	5.1	5.6	4.8	4.2
280.	5.8	4.6	5.2	3.7
290.	5.8	3.8	5.1	3.6
300.	5.8	3.5	5.0	3.6
310.	5.5	3.6	4.8	3.6
320.	5.2	3.5	4.4	3.6
330.	5.1	3.5	4.2	3.6
340.	5.0	3.6	4.1	3.7
350.	5.0	3.8	4.4	3.9
360.	5.1	4.1	4.5	4.2
MAX.	5.8 280 DEGR.	6.3 250 DEGR.	5.2 280 DEGR.	4.9 250 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	5.8	280	6.3	250	5.2	280	4.9	250

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 1995 BUILD 1-HR PM CAUSE/COMER/END/WASH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAUSEWAY ST FF	0.	3.	-1000.	3.	1000.	270.	AG	1750.	28.9	0.0	22.8	0.00	0.0
2. WASHINGTON SOUTH FF	0.	0.	-574.	-819.	1000.	215.	AG	1925.	28.9	0.0	21.2	0.00	0.0
3. ENDICOTT ST FF	8.	0.	-22.	-249.	251.	187.	AG	125.	36.1	0.0	11.2	0.00	0.0
4. COMMERCIAL ST FF	0.	5.	1000.	5.	1000.	90.	AG	1790.	28.9	0.0	19.0	0.00	0.0
5. WASHINGTON NORTH FF	0.	0.	174.	985.	1000.	10.	AG	4350.	28.9	0.0	20.9	0.00	0.0
6. I-93 NB/SB	-171.	0.	-171.	183.	183.	360.	BR	6710.	24.0	7.6	32.6	0.00	0.0
7. I-93 NB/SB	-171.	0.	-171.	-305.	305.	180.	BR	6710.	24.0	7.6	32.6	0.00	0.0
8. NB I-93 OFF-RAMP	-171.	0.	-171.	183.	183.	360.	BR	720.	28.9	7.6	13.6	0.00	0.0
9. CAUSEWAY ST Q	-15.	-1.	-56.	-1.	41.	270.	AG	2803.	100.0	0.0	15.1	0.75	6.9
10. WASHINGT. SB THRU Q	-4.	15.	2.	45.	30.	11.	AG	1019.	100.0	0.0	11.2	0.44	5.0
11. WASHINGT. SB RIGHT Q	-8.	16.	-5.	37.	21.	11.	AG	221.	100.0	0.0	8.6	0.55	3.5
12. WASHINGT. SB LEFT Q	0.	15.	11.	74.	60.	11.	AG	841.	100.0	0.0	8.6	0.83	10.0
13. COMMERCIL ST TH/LT Q	14.	8.	35.	8.	21.	90.	AG	1869.	100.0	0.0	12.1	0.42	3.6
14. ENDICOTT STREET Q	6.	-13.	5.	-30.	17.	185.	AG	858.	100.0	0.0	8.6	0.28	2.8
15. WASHINGTON ST NB Q	-4.	-10.	-161.	-235.	275.	215.	AG	1716.	100.0	0.0	11.2	1.13	45.8
16. COMMERCIAL ST RT Q	14.	10.	22.	10.	8.	90.	AG	85.	100.0	0.0	9.1	0.54	1.4

WARNING: THE LENGTH (60. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (21. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (275. m) OF THE QUEUE LINK # 15 IS GREATER THAN THE LENGTH (17. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	15.	-6.	1.8
2. TELEPHONE	0.	-21.	1.8
3. DVA CLINIC	-49.	-10.	1.8
4. CAUSEWAY ST.BUILDNG	-19.	14.	1.8
5. NE CORNER PARK	20.	20.	1.8

JOB: CAI3QHC NEW BOSTON GARDEN (#7) RUN: 1995 BUILD 1-HR PM CAUSE/COMER/END/WASH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	14.9	15.1	15.3	6.3	10.1
10.	13.7	15.7	15.7	8.1	8.6
20.	11.9	14.0	16.3	9.9	6.6
30.	10.9	11.9	17.4	11.2	5.4
40.	10.3	10.8	18.6	11.8	5.1
50.	9.8	10.3	19.2	12.0	5.0
60.	9.1	9.8	19.3	11.9	5.0
70.	8.4	9.4	18.7	11.7	5.2
80.	8.0	9.2	17.5	12.3	5.7
90.	7.3	8.9	14.7	12.9	6.6
100.	6.2	8.3	11.4	12.5	7.6
110.	5.5	7.9	9.4	11.0	8.4
120.	5.2	7.7	8.6	10.0	9.2
130.	5.1	7.7	8.5	9.7	10.0
140.	5.1	7.6	8.2	10.0	10.5
150.	5.1	7.3	8.1	11.1	10.8
160.	5.0	7.0	7.9	12.3	10.8
170.	5.1	6.8	8.1	14.1	10.9
180.	5.5	6.4	8.2	15.7	11.4
190.	6.3	6.4	8.5	16.5	12.0
200.	7.8	7.6	8.7	17.3	13.7
210.	10.7	10.9	8.2	17.1	15.9
220.	13.3	14.0	7.1	15.9	16.8
230.	14.0	15.3	6.3	14.5	15.9
240.	12.9	14.5	6.2	13.5	14.9
250.	12.4	13.6	6.4	12.4	14.7
260.	13.0	13.4	7.1	10.9	14.4
270.	13.9	14.1	8.8	9.3	13.7
280.	14.1	15.4	10.1	7.5	12.7
290.	13.1	16.7	10.6	6.6	12.3
300.	12.0	17.4	11.1	6.2	11.9
310.	11.6	17.1	11.9	6.0	11.4
320.	11.9	15.0	12.4	5.5	11.2
330.	12.5	13.7	13.0	5.3	10.8
340.	13.4	13.1	13.5	5.0	10.5
350.	14.6	13.8	14.5	5.2	10.5
360.	14.9	15.1	15.3	6.3	10.1
MAX.	14.9	0 DEGR. 17.4	300 DEGR. 19.3	60 DEGR. 17.3	200 DEGR. 16.8 220 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	14.9	0	17.4	300	19.3	60	17.3	200	16.8	220

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 1995 BUILD 8-HR PM CAUSE/COMER/END/WASH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAUSEWAY ST FF	0.	3.	-506.	3.	506.	270.	AG	1383.	14.4	0.0	22.8	0.00	0.0
2. CAUSEWAY ST FF	-506.	3.	-920.	-287.	506.	235.	AG	1383.	14.4	0.0	22.8	0.00	0.0
3. WASHINGTON SOUTH FF	0.	0.	-290.	-415.	506.	215.	AG	1521.	14.4	0.0	21.2	0.00	0.0
4. ENDICOTT ST FF	8.	0.	-22.	-249.	251.	187.	AG	99.	17.3	0.0	11.2	0.00	0.0
5. COMMERCIAL ST FF	0.	5.	274.	5.	274.	90.	AG	1414.	14.4	0.0	19.0	0.00	0.0
6. COMMERCIAL ST FF	274.	5.	274.	-725.	730.	180.	AG	1414.	14.4	0.0	19.0	0.00	0.0
7. WASHINGTON NORTH FF	0.	0.	109.	616.	625.	10.	AG	3437.	14.4	0.0	20.9	0.00	0.0
8. I-93 NB/SB	-171.	0.	-171.	183.	183.	360.	AG	5301.	9.7	7.6	32.6	0.00	0.0
9. I-93 NB/SB	-171.	0.	-171.	-305.	305.	180.	AG	5301.	9.7	7.6	32.6	0.00	0.0
10. NB I-93 OFF-RAMP	-171.	0.	-171.	183.	183.	360.	AG	569.	14.4	7.6	13.6	0.00	0.0
11. CAUSEWAY ST Q	-15.	-1.	-46.	-1.	30.	270.	AG	1753.	100.0	0.0	15.1	0.59	5.1
12. WASHINGT. SB THRU Q	-4.	15.	0.	38.	23.	11.	AG	637.	100.0	0.0	11.2	0.35	3.9
13. WASHINGT. SB RIGHT Q	-8.	16.	-5.	32.	16.	11.	AG	138.	100.0	0.0	8.6	0.43	2.6
14. WASHINGT. SB LEFT Q	0.	15.	8.	58.	43.	11.	AG	526.	100.0	0.0	8.6	0.66	7.2
15. COMMERCIAL ST THRU Q	14.	8.	30.	8.	17.	90.	AG	1168.	100.0	0.0	12.1	0.33	2.8
16. ENDICOTT ST THRU Q	6.	-13.	5.	-26.	13.	185.	AG	536.	100.0	0.0	8.6	0.22	2.2
17. WASHINGTON S THRU Q	-5.	-14.	-43.	-68.	66.	215.	AG	1073.	100.0	0.0	11.2	0.89	11.1
18. COMMERCIAL ST RT Q	14.	10.	20.	10.	6.	90.	AG	53.	100.0	0.0	9.1	0.43	1.1

WARNING: THE LENGTH (43. m) OF THE QUEUE LINK # 14 IS GREATER THAN THE LENGTH (16. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (66. m) OF THE QUEUE LINK # 17 IS GREATER THAN THE LENGTH (13. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	15.	-6.	1.8
2. TELEPHONE	0.	-21.	1.8
3. DVA CLINIC	-49.	-10.	1.8
4. CAUSEWAY ST.BUILDNG	-19.	14.	1.8
5. NE CORNER PARK	20.	20.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 1995 BUILD 8-HR PM CAUSE/COMER/END/WASH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	7.5	7.4	4.6	3.4	4.9
10.	7.1	7.7	5.7	4.1	4.3
20.	6.4	7.2	6.9	5.0	3.6
30.	6.0	6.4	7.9	5.6	3.2
40.	5.5	6.0	9.1	6.2	3.0
50.	5.1	5.8	9.8	6.6	3.0
60.	4.6	5.4	10.2	6.5	3.0
70.	4.3	5.3	9.9	6.4	3.1
80.	4.0	5.2	9.2	6.6	3.2
90.	3.7	5.1	7.6	6.5	3.4
100.	3.5	5.0	6.3	6.2	3.8
110.	3.3	4.7	5.1	5.7	4.3
120.	3.2	4.5	4.8	5.1	4.7
130.	3.1	4.3	4.6	5.1	5.1
140.	3.1	4.1	4.6	5.2	5.5
150.	3.1	3.9	4.6	6.0	5.9
160.	3.0	3.7	4.4	6.6	6.1
170.	3.0	3.6	4.2	7.9	6.3
180.	3.2	3.6	3.9	8.6	6.6
190.	3.6	3.6	3.7	8.9	6.8
200.	4.1	4.1	3.7	8.7	7.1
210.	5.3	5.4	3.6	8.6	7.7
220.	6.5	7.1	3.4	8.2	7.9
230.	6.9	8.3	3.3	7.7	7.6
240.	6.5	8.2	3.4	6.9	7.5
250.	6.3	7.9	3.4	5.9	7.2
260.	6.2	7.7	3.8	5.3	7.1
270.	6.7	7.9	4.0	4.4	7.1
280.	6.9	8.4	4.2	3.8	6.6
290.	6.3	9.0	4.1	3.4	6.4
300.	6.0	9.4	4.0	3.4	6.1
310.	6.0	9.1	4.0	3.3	5.8
320.	6.1	8.0	4.0	3.2	5.7
330.	6.5	7.3	3.8	3.1	5.4
340.	7.0	6.6	3.7	3.0	5.2
350.	7.4	6.9	3.8	3.1	5.2
360.	7.5	7.4	4.6	3.4	4.9
MAX.	7.5 0 DEGR.	9.4 300 DEGR.	10.2 60 DEGR.	8.9 190 DEGR.	7.9 220 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	7.5	0	9.4	300	10.2	60	8.9	190	7.9	220

JOB: CAL3QHC NEW BOSTON GARDEN (#7) MITIG RUN: 1995 BUILD 8-HR PM CAUSE/COMER/END/WASH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVC
1. CAUSEWAY ST FF	0.	3.	-506.	3.	506.	270.	AG	1383.	14.4	0.0	22.8	0.00	0
2. CAUSEWAY ST FF	-506.	3.	-920.	-287.	506.	235.	AG	1383.	14.4	0.0	22.8	0.00	0
3. WASHINGTON SOUTH FF	0.	0.	-290.	-415.	506.	215.	AG	1521.	14.4	0.0	21.2	0.00	0
4. ENDICOTT ST FF	8.	0.	-22.	-249.	251.	187.	AG	99.	17.3	0.0	11.2	0.00	0
5. COMMERCIAL ST FF	0.	5.	274.	5.	274.	90.	AG	1414.	14.4	0.0	19.0	0.00	0
6. COMMERCIAL ST FF	274.	5.	274.	-725.	730.	180.	AG	1414.	14.4	0.0	19.0	0.00	0
7. WASHINGTON NORTH FF	0.	0.	109.	616.	625.	10.	AG	3437.	14.4	0.0	20.9	0.00	0
8. I-93 NB/SB	-171.	0.	-171.	183.	183.	360.	AG	5301.	9.7	7.6	32.6	0.00	0
9. I-93 NB/SB	-171.	0.	-171.	-305.	305.	180.	AG	5301.	9.7	7.6	32.6	0.00	0
10. NB I-93 OFF-RAMP	-171.	0.	-171.	183.	183.	360.	AG	569.	14.4	7.6	13.6	0.00	0
11. CAUSEWAY ST Q THRU	-15.	-2.	-23.	-2.	8.	270.	AG	850.	100.0	0.0	12.1	0.12	1
12. WASHINGT. SB THRU Q	-4.	15.	0.	38.	23.	11.	AG	637.	100.0	0.0	11.2	0.35	3
13. WASHINGT. SB RIGHT Q	-8.	16.	-5.	32.	16.	11.	AG	138.	100.0	0.0	8.6	0.43	2
14. WASHINGT. SB LEFT Q	0.	15.	8.	58.	43.	11.	AG	526.	100.0	0.0	8.6	0.66	7
15. COMMERCIAL ST THRU Q	14.	8.	29.	8.	16.	90.	AG	1115.	100.0	0.0	12.1	0.28	2
16. ENDICOTT ST THRU Q	6.	-13.	5.	-26.	13.	185.	AG	536.	100.0	0.0	8.6	0.22	2
17. WASHINGTON S THRU Q	-5.	-14.	-43.	-68.	66.	215.	AG	1073.	100.0	0.0	11.2	0.89	11
18. COMMERCIAL ST RT Q	14.	10.	20.	10.	6.	90.	AG	53.	100.0	0.0	9.1	0.43	1
19. CAUSEWAY ST LT Q	-15.	2.	-574.	2.	559.	270.	AG	611.	100.0	0.0	9.1	1.58	93

WARNING: THE LENGTH (23. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (8. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (43. m) OF THE QUEUE LINK # 14 IS GREATER THAN THE LENGTH (16. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (66. m) OF THE QUEUE LINK # 17 IS GREATER THAN THE LENGTH (13. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (559. m) OF THE QUEUE LINK # 19 IS GREATER THAN THE LENGTH (6. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	15.	-6.	1.8
2. TELEPHONE	0.	-21.	1.8
3. DVA CLINIC	-49.	-10.	1.8
4. CAUSEWAY ST.BUILDNG	-19.	14.	1.8
5. NE CORNER PARK	20.	20.	1.8

Mitigation - Change In Signal Timing

JOB: CAL3QHC NEW BOSTON GARDEN (#7) MITIG RUN: 1995 BUILD 8-HR PM CAUSE/COMER/END/WASH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	7.4	7.4	5.0	3.4	4.9
10.	7.0	7.7	5.2	4.1	4.3
20.	6.2	7.2	5.6	5.0	3.6
30.	5.8	6.3	5.8	5.6	3.2
40.	5.3	5.9	6.2	6.2	3.0
50.	4.9	5.7	6.4	6.6	3.0
60.	4.5	5.4	6.7	6.5	3.0
70.	4.2	5.3	6.5	6.3	3.1
80.	4.0	5.2	6.1	6.6	3.2
90.	3.7	5.1	5.4	6.5	3.4
100.	3.5	5.0	5.2	6.1	3.7
110.	3.3	4.7	4.7	5.6	4.2
120.	3.2	4.5	4.6	5.0	4.5
130.	3.1	4.3	4.6	5.0	4.9
140.	3.1	4.1	4.6	5.1	5.2
150.	3.1	3.9	4.6	5.8	5.7
160.	3.0	3.7	4.4	6.3	5.9
170.	3.0	3.6	4.2	7.2	6.1
180.	3.2	3.6	3.9	7.5	6.4
190.	3.6	3.6	3.7	7.5	6.6
200.	4.1	4.1	3.7	6.8	7.0
210.	5.3	5.4	3.6	6.3	7.6
220.	6.5	7.1	3.4	5.8	7.6
230.	6.9	8.3	3.3	5.8	7.3
240.	6.4	8.2	3.4	5.8	7.1
250.	6.2	8.0	3.6	5.9	7.0
260.	6.1	7.9	4.5	6.3	7.4
270.	6.7	8.4	5.4	5.5	7.6
280.	6.8	8.7	6.1	4.4	6.8
290.	6.0	8.7	5.9	3.6	6.5
300.	5.7	8.5	5.7	3.4	6.1
310.	5.8	8.1	5.6	3.3	5.8
320.	6.0	7.4	5.3	3.2	5.7
330.	6.4	6.9	5.1	3.1	5.4
340.	7.0	6.4	5.0	3.0	5.2
350.	7.3	6.9	4.9	3.1	5.2
360.	7.4	7.4	5.0	3.4	4.9
MAX.	7.4 0 DEGR.	8.7 280 DEGR.	6.7 60 DEGR.	7.5 180 DEGR.	7.6 210 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	7.4	0	8.7	280	6.7	60	7.5	180	7.6	210

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 1995 NO-BLD 1-HR PM CAUSE/COMER/END/WASH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVC
1. CAUSEWAY ST FF	0.	3.	-1000.	3.	1000.	270.	AG	1690.	28.9	0.0	22.8	0.00	0.
2. WASHINGTON SOUTH FF	0.	0.	-574.	-819.	1000.	215.	AG	1925.	28.9	0.0	21.2	0.00	0.
3. ENDICOTT ST FF	8.	0.	-22.	-249.	251.	187.	AG	125.	36.1	0.0	11.2	0.00	0.
4. COMMERCIAL ST FF	0.	5.	1000.	5.	1000.	90.	AG	1790.	28.9	0.0	19.0	0.00	0.
5. WASHINGTON NORTH FF	0.	0.	174.	985.	1000.	10.	AG	4290.	28.9	0.0	20.9	0.00	0.
6. I-93 NB/SB	-171.	0.	-171.	183.	183.	360.	BR	6670.	24.0	7.6	32.6	0.00	0.
7. I-93 NB/SB	-171.	0.	-171.	-305.	305.	180.	BR	6670.	24.0	7.6	32.6	0.00	0.
8. NB I-93 OFF-RAMP	-171.	0.	-171.	183.	183.	360.	BR	700.	28.9	7.6	13.6	0.00	0.
9. CAUSEWAY ST Q	-15.	-1.	-54.	-1.	38.	270.	AG	2803.	100.0	0.0	15.1	0.72	6.
10. WASHINGT. SB THRU Q	-4.	15.	2.	45.	30.	11.	AG	1019.	100.0	0.0	11.2	0.44	5.
11. WASHINGT. SB RIGHT Q	-8.	16.	-5.	36.	20.	11.	AG	221.	100.0	0.0	8.6	0.53	3.
12. WASHINGT. SB LEFT Q	0.	15.	11.	74.	60.	11.	AG	841.	100.0	0.0	8.6	0.83	10.
13. COMMERCIAL ST T/L Q	14.	8.	35.	8.	21.	90.	AG	1869.	100.0	0.0	12.1	0.42	3.
14. ENDICOTT STREET Q	6.	-13.	5.	-30.	17.	185.	AG	858.	100.0	0.0	8.6	0.28	2.
15. WASHINGTON ST NB Q	-4.	-10.	-161.	-235.	275.	215.	AG	1716.	100.0	0.0	11.2	1.13	45.
16. COMMERCIAL ST RT Q	14.	10.	22.	10.	8.	90.	AG	85.	100.0	0.0	9.1	0.54	1.

WARNING: THE LENGTH (60. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (20. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (275. m) OF THE QUEUE LINK # 15 IS GREATER THAN THE LENGTH (17. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	15.	-6.	1.8
2. TELEPHONE	0.	-21.	1.8
3. DVA CLINIC	-49.	-10.	1.8
4. CAUSEWAY ST.BUILDNG	-19.	14.	1.8
5. NE CORNER PARK	20.	20.	1.8

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	14.8	15.1	14.8	6.3	10.1
10.	13.7	15.7	15.5	8.1	8.6
20.	11.9	14.0	16.2	9.9	6.6
30.	10.9	11.8	17.3	11.2	5.4
40.	10.3	10.8	18.4	11.7	5.1
50.	9.8	10.3	19.1	12.0	5.0
60.	9.1	9.8	19.2	11.8	5.0
70.	8.4	9.4	18.6	11.7	5.2
80.	8.0	9.2	17.4	12.3	5.7
90.	7.3	8.9	14.7	12.9	6.6
100.	6.2	8.3	11.4	12.4	7.6
110.	5.5	7.9	9.4	10.9	8.4
120.	5.2	7.7	8.6	10.0	9.2
130.	5.1	7.7	8.5	9.6	10.0
140.	5.1	7.6	8.2	10.0	10.5
150.	5.1	7.3	8.0	11.0	10.8
160.	5.0	7.0	7.9	12.2	10.8
170.	5.1	6.8	8.1	14.1	10.9
180.	5.5	6.4	8.2	15.7	11.4
190.	6.3	6.4	8.5	16.5	12.0
200.	7.8	7.6	8.7	17.1	13.7
210.	10.7	10.9	8.1	17.0	15.9
220.	13.3	14.0	7.1	15.8	16.8
230.	14.0	15.3	6.3	14.4	15.9
240.	12.9	14.5	6.2	13.2	14.8
250.	12.2	13.6	6.3	12.0	14.5
260.	12.8	13.4	6.9	10.5	14.2
270.	13.7	13.9	8.0	9.0	13.5
280.	14.0	15.0	9.2	7.5	12.7
290.	12.8	16.4	9.4	6.4	12.2
300.	11.9	17.2	9.9	6.1	11.8
310.	11.5	17.0	10.3	6.0	11.3
320.	11.8	15.0	10.6	5.5	11.0
330.	12.4	13.6	11.1	5.3	10.7
340.	13.3	13.1	12.0	5.0	10.5
350.	14.6	13.7	13.5	5.2	10.4
360.	14.8	15.1	14.8	6.3	10.1
MAX.	14.8	0 DEGR. 17.2	300 DEGR. 19.2	60 DEGR. 17.1	200 DEGR. 16.8 220 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	14.8	0	17.2	300	19.2	60	17.1	200	16.8	220

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 1995 NO-BUD 8-HR PM CAUSE/COMER/END/WASH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAV
1. CAUSEWAY ST FF	0.	3.	-1000.	3.	1000.	270.	AG	1335.	14.4	0.0	22.8	0.00	0
2. WASHINGTON SOUTH FF	0.	0.	-574.	-819.	1000.	215.	AG	1521.	14.4	0.0	21.2	0.00	0
3. ENDICOTT ST FF	8.	0.	-22.	-249.	251.	187.	AG	99.	17.3	0.0	11.2	0.00	0
4. COMMERCIAL ST FF	0.	5.	1000.	5.	1000.	90.	AG	1414.	14.4	0.0	19.0	0.00	0
5. WASHINGTON NORTH FF	0.	0.	174.	985.	1000.	10.	AG	3389.	14.4	0.0	20.9	0.00	0
6. I-93 NB/SB	-171.	0.	-171.	183.	183.	360.	BR	5269.	9.7	7.6	32.6	0.00	0
7. I-93 NB/SB	-171.	0.	-171.	-305.	305.	180.	BR	5269.	9.7	7.6	32.6	0.00	0
8. NB I-93 OFF-RAMP	-171.	0.	-171.	183.	183.	360.	BR	533.	14.4	7.6	13.6	0.00	0
9. CAUSEWAY ST Q	-15.	-1.	-44.	-1.	29.	270.	AG	1753.	100.0	0.0	15.1	0.57	4
10. WASHINGT. SB THRU Q	-4.	15.	0.	38.	23.	11.	AG	637.	100.0	0.0	11.2	0.35	3
11. WASHINGT. SB RIGHT Q	-8.	16.	-6.	31.	15.	11.	AG	138.	100.0	0.0	8.6	0.42	2
12. WASHINGT. SB LEFT Q	0.	15.	8.	58.	43.	11.	AG	526.	100.0	0.0	8.6	0.66	7
13. COMMERCIAL ST THRU Q	14.	8.	30.	8.	17.	90.	AG	1168.	100.0	0.0	12.1	0.33	2
14. ENDICOTT ST THRU Q	6.	-13.	5.	-26.	13.	185.	AG	536.	100.0	0.0	8.6	0.22	2
15. WASHINGT. NB THRU Q	-4.	-10.	-42.	-64.	66.	215.	AG	1073.	100.0	0.0	11.2	0.89	11
16. COMMERCIAL ST RT Q	14.	10.	20.	10.	6.	90.	AG	53.	100.0	0.0	9.1	0.43	1

WARNING: THE LENGTH (43. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (15. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (66. m) OF THE QUEUE LINK # 15 IS GREATER THAN THE LENGTH (13. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	15.	-6.	1.8
2. TELEPHONE	0.	-21.	1.8
3. DVA CLINIC	-49.	-10.	1.8
4. CAUSEWAY ST.BUILDNG	-19.	14.	1.8
5. NE CORNER PARK	20.	20.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 1995 NO-BUD 8-HR PM CAUSE/COMER/END/WASH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	7.5	7.8	4.0	3.4	5.0
10.	7.1	8.0	5.1	4.2	4.3
20.	6.4	7.2	6.2	5.0	3.6
30.	5.9	6.4	7.3	5.6	3.2
40.	5.5	6.0	8.6	6.1	3.0
50.	5.1	5.8	9.3	6.5	3.0
60.	4.6	5.4	9.8	6.5	3.0
70.	4.3	5.4	9.7	6.4	3.1
80.	4.1	5.3	9.2	6.7	3.3
90.	3.9	5.2	7.7	6.7	3.6
100.	3.5	4.9	6.2	6.2	3.9
110.	3.2	4.6	5.1	5.6	4.2
120.	3.1	4.4	4.7	5.0	4.6
130.	3.0	4.2	4.5	5.1	5.0
140.	3.0	4.0	4.5	5.3	5.4
150.	3.0	3.8	4.5	6.0	5.8
160.	3.0	3.7	4.4	6.8	6.1
170.	3.0	3.5	4.2	8.0	6.3
180.	3.2	3.5	3.9	8.8	6.6
190.	3.5	3.4	3.7	8.8	6.8
200.	4.1	3.8	3.6	8.9	7.1
210.	5.2	4.9	3.7	8.6	7.7
220.	6.3	6.4	3.5	8.2	7.9
230.	6.9	7.4	3.3	7.6	7.7
240.	6.8	7.6	3.4	6.7	7.5
250.	6.7	7.5	3.5	5.8	7.2
260.	6.6	7.4	3.7	5.1	7.1
270.	6.9	7.7	4.0	4.5	7.0
280.	7.0	8.1	4.2	3.8	6.5
290.	6.3	8.8	4.1	3.4	6.3
300.	6.0	9.2	4.0	3.4	6.2
310.	5.8	9.1	3.9	3.3	5.8
320.	6.0	8.4	3.9	3.2	5.7
330.	6.5	7.8	3.7	3.1	5.4
340.	6.8	7.2	3.6	3.0	5.2
350.	7.3	7.3	3.6	3.1	5.1
360.	7.5	7.8	4.0	3.4	5.0
MAX.	7.5 0 DEGR.	9.2 300 DEGR.	9.8 60 DEGR.	8.9 200 DEGR.	7.9 220 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	7.5	0	9.2	300	9.8	60	8.9	200	7.9	220

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 1995 BUILD 1-HR PM CITY SQUARE

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAV
1. N WASHINGTON ST FF	-1.	0.	-1.	-1000.	1000.	180.	AG	4350.	28.9	0.0	27.9	0.00	0
2. CHELSEA ST FF	0.	0.	940.	-342.	1000.	110.	AG	1415.	28.9	0.0	20.6	0.00	0
3. RUTHERFORD ST FF	0.	0.	0.	1000.	1000.	360.	AG	3085.	28.9	0.0	27.9	0.00	0
4. RUTHERFRD RIGHT EXFF	-38.	29.	-11.	51.	35.	51.	AG	130.	28.9	0.0	9.7	0.00	0
5. ON RAMP I-93 FF	0.	0.	-766.	643.	1000.	310.	AG	1005.	36.1	0.0	13.3	0.00	0
6. OFF RAMP I-93 FF	0.	-11.	996.	76.	1000.	85.	AG	170.	36.1	0.0	13.3	0.00	0
7. OFF RAMP RIGHT FF	-43.	-6.	-10.	-35.	44.	132.	AG	235.	36.1	0.0	12.1	0.00	0
8. I-93 N. OF DEPRESSIO	-152.	0.	-152.	305.	305.	360.	BR	5410.	18.0	7.6	32.6	0.00	0
9. I-93 N. OF DEPRESSIO	-152.	0.	-152.	-183.	183.	180.	BR	5410.	18.0	7.6	32.6	0.00	0
10. N WASHINGTON THRU Q	12.	-18.	12.	-70.	51.	180.	AG	1570.	100.0	0.0	17.0	0.63	8
11. N WASHINGTON LEFT Q	3.	-18.	3.	-65.	47.	180.	AG	1792.	100.0	0.0	13.3	0.71	7
12. CHELSEA ST THRU Q	24.	1.	51.	-9.	29.	110.	AG	1824.	100.0	0.0	13.3	0.48	4
13. CHELSEA ST LEFT Q	24.	-6.	64.	-20.	42.	110.	AG	1824.	100.0	0.0	13.3	0.67	7
14. RUTHERFORD RIGHT Q	-27.	38.	-27.	49.	11.	360.	AG	571.	100.0	0.0	9.7	0.14	1
15. RUTHERFORD THRU Q	-10.	23.	-10.	70.	47.	360.	AG	2046.	100.0	0.0	17.0	0.57	7
16. RUTHERFORD LEFT Q	-1.	23.	-1.	41.	18.	360.	AG	2109.	100.0	0.0	13.3	0.57	3
17. OFF RAMP RIGHT Q	-27.	-20.	-56.	-11.	31.	287.	AG	785.	100.0	0.0	9.7	0.42	5
18. OFF RAMP THRU Q	-23.	-9.	-41.	-7.	18.	275.	AG	2157.	100.0	0.0	13.3	0.67	3

WARNING: THE LENGTH (42. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (29. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (47. m) OF THE QUEUE LINK # 15 IS GREATER THAN THE LENGTH (11. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (31. m) OF THE QUEUE LINK # 17 IS GREATER THAN THE LENGTH (18. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. FREEDOM TRAIL	29.	-39.	1.8
2. CHELSEA/RUTHERFORD	28.	9.	1.8
3. RUTHERFORD/I-93 ON	-29.	43.	1.8
4. I-93 ON/I-93 OFF	-22.	4.	1.8
5. WASHINGTON/I-93 OFF	-30.	-26.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 1995 BUILD 1-HR PM CITY SQUARE

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	11.1	6.5	7.9	10.7	14.2
10.	10.6	5.6	8.9	12.7	15.0
20.	10.2	5.1	9.7	13.4	14.3
30.	9.9	5.0	10.8	12.9	12.6
40.	9.1	5.0	12.0	11.7	10.6
50.	8.4	5.1	12.5	10.1	9.8
60.	7.6	5.2	12.6	9.3	10.2
70.	6.8	5.3	12.7	8.7	11.5
80.	6.4	5.5	13.2	9.5	12.5
90.	6.1	6.0	14.0	11.0	12.9
100.	5.9	7.5	14.8	12.2	12.7
110.	5.7	10.2	15.6	12.4	12.1
120.	5.3	13.0	16.4	11.9	11.5
130.	5.1	15.2	16.0	11.7	10.7
140.	5.0	16.4	14.6	12.1	9.8
150.	5.0	16.6	13.9	12.3	8.9
160.	5.1	16.1	13.0	12.2	8.3
170.	5.8	16.4	12.4	11.9	8.0
180.	7.2	17.4	11.0	11.0	7.0
190.	8.6	18.5	9.4	10.1	5.8
200.	9.7	18.0	8.0	10.2	5.2
210.	10.7	15.7	7.5	10.9	5.2
220.	11.8	13.2	7.1	11.4	5.4
230.	12.9	11.7	6.8	11.2	5.5
240.	13.5	10.8	7.0	10.4	5.6
250.	13.5	10.1	6.9	9.0	5.7
260.	13.6	9.6	6.7	7.4	5.6
270.	14.0	9.1	6.9	6.2	5.9
280.	14.5	9.2	7.1	5.7	6.3
290.	14.5	10.0	7.1	5.7	7.3
300.	14.5	11.2	7.2	6.2	8.4
310.	13.9	11.7	6.9	6.7	9.7
320.	13.3	11.0	6.5	7.0	10.7
330.	12.8	9.5	6.3	7.1	11.6
340.	12.1	8.3	6.4	7.2	12.0
350.	11.6	7.4	6.9	8.4	12.8
360.	11.1	6.5	7.9	10.7	14.2
MAX.	14.5 300 DEGR.	18.5 190 DEGR.	16.4 120 DEGR.	13.4 20 DEGR.	15.0 10 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	14.5	300	18.5	190	16.4	120	13.4	20	15.0	10

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 1995 BUILD 8-HR PM CITY SQUARE

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850.
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QU
1. N WASHINGTON ST FF	-1.	0.	-1.	-1000.	1000.	180.	AG	3437.	14.4	0.0	27.9	0.00	
2. CHELSEA ST FF	0.	0.	940.	-342.	1000.	110.	AG	1118.	14.4	0.0	20.6	0.00	
3. RUTHERFORD ST FF	0.	0.	0.	1000.	1000.	360.	AG	2437.	14.4	0.0	27.9	0.00	
4. RUTHERFRD RIGHT EXFF	-38.	29.	-11.	51.	35.	51.	AG	103.	14.4	0.0	9.7	0.00	
5. ON RAMP I-93 FF	0.	0.	-766.	643.	1000.	310.	AG	794.	17.3	0.0	13.3	0.00	
6. OFF RAMP I-93 FF	0.	-11.	996.	76.	1000.	85.	AG	134.	17.3	0.0	13.3	0.00	
7. OFF RAMP RIGHT FF	-43.	-6.	-10.	-35.	44.	132.	AG	186.	17.3	0.0	12.1	0.00	
8. I-93 N. OF DEPRESSIO	-152.	0.	-152.	305.	305.	360.	BR	4274.	9.7	7.6	32.6	0.00	
9. I-93 N. OF DEPRESSIO	-152.	0.	-152.	-183.	183.	180.	BR	4274.	9.7	7.6	32.6	0.00	
10. N WASHINGTON THRU Q	12.	-18.	12.	-57.	39.	180.	AG	981.	100.0	0.0	17.0	0.50	
11. N WASHINGTON LEFT Q	3.	-18.	3.	-54.	35.	180.	AG	1120.	100.0	0.0	13.3	0.56	
12. CHELSEA ST THRU Q	24.	1.	45.	-6.	22.	110.	AG	1140.	100.0	0.0	13.3	0.38	
13. CHELSEA ST LEFT Q	24.	-6.	54.	-17.	32.	110.	AG	1140.	100.0	0.0	13.3	0.53	
14. RUTHERFORD RIGHT Q	-27.	38.	-27.	46.	9.	360.	AG	357.	100.0	0.0	9.7	0.11	
15. RUTHERFORD THRU Q	-10.	23.	-10.	59.	36.	360.	AG	1279.	100.0	0.0	17.0	0.45	
16. RUTHERFORD LEFT Q	-1.	23.	-1.	37.	14.	360.	AG	1319.	100.0	0.0	13.3	0.45	
17. OFF RAMP RIGHT Q	-27.	-20.	-50.	-13.	24.	287.	AG	491.	100.0	0.0	9.7	0.33	
18. OFF RAMP THRU Q	-23.	-9.	-37.	-7.	13.	275.	AG	1348.	100.0	0.0	13.3	0.53	

WARNING: THE LENGTH (32. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (22. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (36. m) OF THE QUEUE LINK # 15 IS GREATER THAN THE LENGTH (9. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (24. m) OF THE QUEUE LINK # 17 IS GREATER THAN THE LENGTH (14. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. FREEDOM TRAIL	29.	-39.	1.8
2. CHELSEA/RUTHERFORD	28.	9.	1.8
3. RUTHERFORD/I-93 ON	-29.	43.	1.8
4. I-93 ON/I-93 OFF	-22.	4.	1.8
5. WASHINGTON/I-93 OFF	-30.	-26.	1.8

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	6.2	3.6	4.1	5.6	7.7
10.	5.9	3.2	4.4	6.7	8.2
20.	5.7	3.0	4.6	7.1	7.8
30.	5.3	3.0	5.1	6.9	6.8
40.	4.8	3.0	5.7	6.3	5.8
50.	4.2	3.1	6.4	5.4	5.2
60.	3.7	3.1	6.7	4.8	5.5
70.	3.5	3.2	7.0	4.8	6.1
80.	3.3	3.2	7.4	4.8	6.8
90.	3.4	3.5	7.8	5.6	6.8
100.	3.4	4.2	8.4	6.2	6.9
110.	3.3	5.4	8.7	6.3	6.6
120.	3.1	6.9	9.0	6.1	6.0
130.	3.0	8.2	8.8	6.1	5.3
140.	3.0	9.0	8.2	6.4	4.6
150.	3.0	9.5	7.4	6.3	4.4
160.	3.1	9.5	6.8	6.2	4.1
170.	3.3	9.4	6.4	6.1	4.1
180.	3.8	9.8	5.8	5.9	3.8
190.	4.2	10.0	4.9	5.8	3.3
200.	4.5	9.8	4.6	6.1	3.1
210.	4.9	8.5	4.2	6.4	3.1
220.	5.4	7.1	3.8	6.5	3.2
230.	6.1	6.0	3.7	6.0	3.2
240.	6.8	5.7	3.8	5.4	3.2
250.	7.3	5.4	3.8	4.6	3.2
260.	7.6	4.9	3.8	4.0	3.3
270.	8.0	4.7	3.8	3.4	3.4
280.	8.2	5.0	3.8	3.2	3.6
290.	7.9	5.3	3.8	3.3	4.1
300.	8.0	6.1	3.9	3.4	4.4
310.	7.7	6.1	3.8	3.6	5.2
320.	7.2	5.7	3.6	3.8	5.6
330.	6.8	4.9	3.4	3.7	5.9
340.	6.5	4.2	3.4	4.0	6.4
350.	6.2	3.9	3.6	4.4	7.1
360.	6.2	3.6	4.1	5.6	7.7
MAX.	8.2 280 DEGR.	10.0 190 DEGR.	9.0 120 DEGR.	7.1 20 DEGR.	8.2 10 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	8.2	280	10.0	190	9.0	120	7.1	20	8.2	10

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#8) MOVE - mitig. Receptor RUN: 1995 BUILD 8-HR PM CITY SQUARE

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M

Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QA
1. N WASHINGTON ST FF	-1.	0.	-1.	-1000.	1000.	180.	AG	3437.	14.4	0.0	27.9	0.00	
2. CHELSEA ST FF	0.	0.	940.	-342.	1000.	110.	AG	1118.	14.4	0.0	20.6	0.00	
3. RUTHERFORD ST FF	0.	0.	0.	1000.	1000.	360.	AG	2437.	14.4	0.0	27.9	0.00	
4. RUTHERFRD RIGHT EXFF	-38.	29.	-11.	51.	35.	51.	AG	103.	14.4	0.0	9.7	0.00	
5. ON RAMP I-93 FF	0.	0.	-766.	643.	1000.	310.	AG	794.	17.3	0.0	13.3	0.00	
6. OFF RAMP I-93 FF	0.	-11.	996.	76.	1000.	85.	AG	134.	17.3	0.0	13.3	0.00	
7. OFF RAMP RIGHT FF	-43.	-6.	-10.	-35.	44.	132.	AG	186.	17.3	0.0	12.1	0.00	
8. I-93 N. OF DEPRESSIO	-152.	0.	-152.	305.	305.	360.	BR	4274.	9.7	7.6	32.6	0.00	
9. I-93 N. OF DEPRESSIO	-152.	0.	-152.	-183.	183.	180.	BR	4274.	9.7	7.6	32.6	0.00	
10. N WASHINGTON THRU Q	12.	-18.	12.	-57.	39.	180.	AG	981.	100.0	0.0	17.0	0.50	
11. N WASHINGTON LEFT Q	3.	-18.	3.	-54.	35.	180.	AG	1120.	100.0	0.0	13.3	0.56	
12. CHELSEA ST THRU Q	24.	1.	45.	-6.	22.	110.	AG	1140.	100.0	0.0	13.3	0.38	
13. CHELSEA ST LEFT Q	24.	-6.	54.	-17.	32.	110.	AG	1140.	100.0	0.0	13.3	0.53	
14. RUTHERFORD RIGHT Q	-27.	38.	-27.	46.	9.	360.	AG	357.	100.0	0.0	9.7	0.11	
15. RUTHERFORD THRU Q	-10.	23.	-10.	59.	36.	360.	AG	1279.	100.0	0.0	17.0	0.45	
16. RUTHERFORD LEFT Q	-1.	23.	-1.	37.	14.	360.	AG	1319.	100.0	0.0	13.3	0.45	
17. OFF RAMP RIGHT Q	-27.	-20.	-50.	-13.	24.	287.	AG	491.	100.0	0.0	9.7	0.33	
18. OFF RAMP THRU Q	-23.	-9.	-37.	-7.	13.	275.	AG	1348.	100.0	0.0	13.3	0.53	

WARNING: THE LENGTH (32. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (22. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (36. m) OF THE QUEUE LINK # 15 IS GREATER THAN THE LENGTH (9. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (24. m) OF THE QUEUE LINK # 17 IS GREATER THAN THE LENGTH (14. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. CHELSEA/RUTHERFORD	28.	9.	1.8
2. CHELSEA/RUTHERFORD	28.	11.	1.8
3. CHELSEA/RUTHERFORD	28.	13.	1.8
4. CHELSEA/RUTHERFORD	28.	16.	1.8

Mitigation

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 1995 BUILD 8-HR PM CITY SQUARE

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	3.6	3.6	3.6	3.6
10.	3.2	3.2	3.2	3.2
20.	3.0	3.0	3.0	3.0
30.	3.0	3.0	3.0	3.0
40.	3.0	3.0	3.0	3.0
50.	3.1	3.0	3.0	3.0
60.	3.1	3.0	3.0	3.0
70.	3.2	3.0	3.0	3.0
80.	3.2	3.0	3.0	3.0
90.	3.5	3.2	3.0	3.0
100.	4.2	3.5	3.3	3.2
110.	5.4	4.2	3.8	3.5
120.	6.9	5.6	4.5	4.1
130.	8.2	6.8	5.7	5.0
140.	9.0	7.8	6.8	6.1
150.	9.5	8.5	7.7	6.9
160.	9.5	8.8	8.0	7.5
170.	9.4	8.7	8.1	7.6
180.	9.8	9.1	8.6	8.2
190.	10.0	9.2	8.6	8.2
200.	9.8	8.9	8.1	7.6
210.	8.5	7.6	7.0	6.7
220.	7.1	6.4	6.0	5.7
230.	6.0	5.6	5.4	5.1
240.	5.7	5.4	5.0	4.9
250.	5.4	4.9	4.9	4.8
260.	4.9	4.6	4.8	4.8
270.	4.7	4.8	4.8	4.9
280.	5.0	5.0	5.1	5.5
290.	5.3	5.7	6.0	6.2
300.	6.1	6.3	6.4	6.5
310.	6.1	6.1	6.1	6.0
320.	5.7	5.6	5.5	5.3
330.	4.9	4.8	4.7	4.6
340.	4.2	4.1	4.1	4.0
350.	3.9	3.9	3.8	3.8
360.	3.6	3.6	3.6	3.6
MAX.	10.0 190 DEGR.	9.2 190 DEGR.	8.6 180 DEGR.	8.2 180 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	10.0	190	9.2	190	8.6	180	8.2	180

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 1995 NO-BUILD 1-HR PM CITY SQUARE

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG
1. N WASHINGTON ST FF	-1.	0.	-1.	-1000.	1000.	180.	AG	4290.	28.9	0.0	27.9	0.00	0.
2. CHELSEA ST FF	0.	0.	940.	-342.	1000.	110.	AG	1415.	28.9	0.0	20.6	0.00	0.
3. RUTHERFORD ST FF	0.	0.	0.	1000.	1000.	360.	AG	3180.	28.9	0.0	27.9	0.00	0.
4. RUTHERFRD RIGHT EXFF	-38.	29.	-11.	51.	35.	51.	AG	130.	28.9	0.0	9.7	0.00	0.
5. ON RAMP I-93 FF	0.	0.	-766.	643.	1000.	310.	AG	990.	36.1	0.0	13.3	0.00	0.
6. OFF RAMP I-93 FF	0.	-11.	996.	76.	1000.	85.	AG	170.	36.1	0.0	13.3	0.00	0.
7. OFF RAMP RIGHT FF	-43.	-6.	-10.	-35.	44.	132.	AG	225.	36.1	0.0	12.1	0.00	0.
8. I-93 N. OF DEPRESSIO	-152.	0.	-152.	305.	305.	360.	BR	5430.	18.0	7.6	32.6	0.00	0.
9. I-93 N. OF DEPRESSIO	-152.	0.	-152.	-183.	183.	180.	BR	5430.	18.0	7.6	32.6	0.00	0.
10. N WASHINGTON THRU Q	12.	-18.	12.	-69.	50.	180.	AG	1570.	100.0	0.0	17.0	0.62	8.
11. N WASHINGTON LEFT Q	3.	-18.	3.	-64.	45.	180.	AG	1792.	100.0	0.0	13.3	0.69	7.
12. CHELSEA ST THRU Q	24.	1.	51.	-9.	29.	110.	AG	1824.	100.0	0.0	13.3	0.48	4.
13. CHELSEA ST LEFT Q	24.	-6.	64.	-20.	42.	110.	AG	1824.	100.0	0.0	13.3	0.67	7.
14. RUTHERFORD RIGHT Q	-27.	38.	-27.	49.	11.	360.	AG	571.	100.0	0.0	9.7	0.14	1.
15. RUTHERFORD THRU Q	-10.	23.	-10.	70.	47.	360.	AG	2046.	100.0	0.0	17.0	0.57	7.
16. RUTHERFORD LEFT Q	-1.	23.	-1.	41.	18.	360.	AG	2109.	100.0	0.0	13.3	0.57	3.
17. OFF RAMP RIGHT Q	-27.	-20.	-55.	-11.	29.	287.	AG	785.	100.0	0.0	9.7	0.40	4.
18. OFF RAMP THRU Q	-23.	-9.	-41.	-7.	18.	275.	AG	2157.	100.0	0.0	13.3	0.67	3.

WARNING: THE LENGTH (42. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (29. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (47. m) OF THE QUEUE LINK # 15 IS GREATER THAN THE LENGTH (11. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (29. m) OF THE QUEUE LINK # 17 IS GREATER THAN THE LENGTH (18. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. FREEDOM TRAIL	29.	-39.	1.8
2. CHELSEA/RUTHERFORD	28.	9.	1.8
3. RUTHERFORD/I-93 ON	-29.	43.	1.8
4. I-93 ON/I-93 OFF	-22.	4.	1.8
5. WASHINGTON/I-93 OFF	-30.	-26.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 1995 NO-BUILD 1-HR PM CITY SQUARE

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	11.2	6.5	8.0	10.7	14.1
10.	10.6	5.6	8.9	12.8	15.0
20.	10.2	5.1	9.7	13.5	14.2
30.	9.9	5.0	10.8	13.0	12.6
40.	9.1	5.0	11.9	11.8	10.6
50.	8.4	5.1	12.4	10.2	9.8
60.	7.6	5.2	12.6	9.3	10.1
70.	6.8	5.3	12.7	8.8	11.4
80.	6.4	5.5	13.3	9.5	12.5
90.	6.1	6.0	14.0	11.1	12.9
100.	5.9	7.5	14.9	12.3	12.7
110.	5.7	10.2	15.7	12.3	12.1
120.	5.3	13.0	16.4	11.8	11.3
130.	5.1	15.2	16.0	11.6	10.6
140.	5.0	16.4	14.6	12.0	9.7
150.	5.0	16.6	13.8	12.1	8.9
160.	5.1	16.1	12.9	12.1	8.2
170.	5.8	16.4	12.4	11.8	7.8
180.	7.1	17.4	11.0	11.0	7.0
190.	8.4	18.3	9.3	10.1	5.8
200.	9.6	17.9	8.0	10.2	5.2
210.	10.5	15.7	7.4	10.9	5.2
220.	11.7	13.2	7.1	11.4	5.4
230.	12.7	11.7	6.8	11.2	5.5
240.	13.4	10.7	6.9	10.3	5.6
250.	13.5	10.1	6.9	9.0	5.7
260.	13.6	9.6	6.7	7.4	5.6
270.	14.0	9.0	6.9	6.3	5.9
280.	14.5	9.2	7.1	5.7	6.4
290.	14.4	10.1	7.0	5.7	7.1
300.	14.4	11.3	7.2	6.2	8.3
310.	14.0	11.8	6.9	6.7	9.6
320.	13.3	11.0	6.5	7.0	10.7
330.	12.8	9.6	6.3	7.1	11.6
340.	12.1	8.3	6.4	7.2	12.0
350.	11.6	7.5	6.9	8.4	12.9
360.	11.2	6.5	8.0	10.7	14.1
MAX.	14.5 280 DEGR.	18.3 190 DEGR.	16.4 120 DEGR.	13.5 20 DEGR.	15.0 10 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	14.5	280	18.3	190	16.4	120	13.5	20	15.0	10

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 1995 NO-BUILD 8-HR PM CITY SQUARE

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. N WASHINGTON ST FF	-1.	0.	-1.	-1000.	1000.	180.	AG	2677.	14.4	0.0	27.9	0.00	0.0
2. CHELSEA ST FF	0.	0.	940.	-342.	1000.	110.	AG	1118.	14.4	0.0	20.6	0.00	0.0
3. RUTHERFORD ST FF	0.	0.	0.	1000.	1000.	360.	AG	2512.	14.4	0.0	27.9	0.00	0.0
4. RUTHERFRD RIGHT EXFF	-38.	29.	-11.	51.	35.	51.	AG	103.	14.4	0.0	9.7	0.00	0.0
5. ON RAMP I-93 FF	0.	0.	-766.	643.	1000.	310.	AG	782.	17.3	0.0	13.3	0.00	0.0
6. OFF RAMP I-93 FF	0.	-11.	996.	76.	1000.	85.	AG	134.	17.3	0.0	13.3	0.00	0.0
7. OFF RAMP RIGHT FF	-43.	-6.	-10.	-35.	44.	132.	AG	178.	17.3	0.0	12.1	0.00	0.0
8. I-93 N. OF DEPRESSIO	-152.	0.	-152.	305.	305.	360.	BR	4290.	9.7	7.6	32.6	0.00	0.0
9. I-93 N. OF DEPRESSIO	-152.	0.	-152.	-183.	183.	180.	BR	4290.	9.7	7.6	32.6	0.00	0.0
10. N WASHINGTON THRU Q	12.	-18.	12.	-56.	38.	180.	AG	981.	100.0	0.0	17.0	0.49	6.4
11. N WASHINGTON LEFT Q	3.	-18.	3.	-53.	34.	180.	AG	1120.	100.0	0.0	13.3	0.55	5.7
12. CHELSEA ST THRU Q	24.	1.	45.	-6.	22.	110.	AG	1140.	100.0	0.0	13.3	0.38	3.7
13. CHELSEA ST LEFT Q	24.	-6.	54.	-17.	32.	110.	AG	1140.	100.0	0.0	13.3	0.53	5.3
14. RUTHERFORD RIGHT Q	-27.	38.	-27.	46.	9.	360.	AG	357.	100.0	0.0	9.7	0.11	1.4
15. RUTHERFORD THRU Q	-10.	23.	-10.	59.	36.	360.	AG	1279.	100.0	0.0	17.0	0.45	5.9
16. RUTHERFORD LEFT Q	-1.	23.	-1.	37.	14.	360.	AG	1319.	100.0	0.0	13.3	0.45	2.3
17. OFF RAMP RIGHT Q	-27.	-20.	-49.	-13.	23.	287.	AG	491.	100.0	0.0	9.7	0.31	3.8
18. OFF RAMP THRU Q	-23.	-9.	-37.	-7.	13.	275.	AG	1348.	100.0	0.0	13.3	0.53	2.2

WARNING: THE LENGTH (32. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (22. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (36. m) OF THE QUEUE LINK # 15 IS GREATER THAN THE LENGTH (9. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (23. m) OF THE QUEUE LINK # 17 IS GREATER THAN THE LENGTH (14. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. FREEDOM TRAIL	29.	-39.	1.8
2. CHELSEA/RUTHERFORD	28.	9.	1.8
3. RUTHERFORD/I-93 ON	-29.	43.	1.8
4. I-93 ON/I-93 OFF	-22.	4.	1.8
5. WASHINGTON/I-93 OFF	-30.	-26.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 1995 NO-BUILD 8-HR PM CITY SQUARE

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	6.2	3.6	4.1	5.6	7.8
10.	5.9	3.2	4.4	6.7	8.2
20.	5.7	3.0	4.6	6.9	7.8
30.	5.3	3.0	5.1	6.8	6.8
40.	4.8	3.0	5.6	6.3	5.7
50.	4.2	3.1	6.3	5.4	5.1
60.	3.7	3.1	6.7	4.9	5.3
70.	3.5	3.2	6.9	4.7	5.9
80.	3.3	3.2	7.4	4.8	6.7
90.	3.4	3.5	7.8	5.5	6.6
100.	3.4	4.2	8.4	6.1	6.7
110.	3.3	5.4	8.7	6.2	6.4
120.	3.1	6.9	9.0	5.9	5.8
130.	3.0	8.2	8.8	5.9	5.1
140.	3.0	9.0	8.2	6.1	4.4
150.	3.0	9.5	7.4	6.0	4.1
160.	3.0	9.4	6.6	5.9	3.9
170.	3.2	9.3	6.0	5.6	3.9
180.	3.6	9.6	5.6	5.5	3.6
190.	3.9	9.8	4.9	5.7	3.2
200.	4.3	9.5	4.5	6.1	3.0
210.	4.6	8.3	4.2	6.4	3.1
220.	5.2	6.9	3.8	6.4	3.2
230.	5.8	5.8	3.7	6.0	3.2
240.	6.5	5.5	3.8	5.4	3.3
250.	7.1	5.3	3.8	4.6	3.2
260.	7.5	4.8	3.8	4.0	3.3
270.	7.8	4.8	3.8	3.4	3.3
280.	8.0	4.9	3.8	3.2	3.6
290.	7.7	5.4	3.8	3.3	4.1
300.	7.8	6.1	3.8	3.4	4.4
310.	7.6	6.1	3.7	3.6	5.2
320.	7.1	5.8	3.6	3.8	5.6
330.	6.7	4.9	3.4	3.7	5.9
340.	6.6	4.3	3.4	4.0	6.4
350.	6.2	4.0	3.6	4.3	7.1
360.	6.2	3.6	4.1	5.6	7.8
MAX.	8.0 280 DEGR.	9.8 190 DEGR.	9.0 120 DEGR.	6.9 20 DEGR.	8.2 10 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	8.0	280	9.8	190	9.0	120	6.9	20	8.2	10

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 1995 BUILD 1-HR PM STAN/CAMBRDG/TEMP

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAV
1. CAMBRIDGE ST EB FF	0.	0.	-1000.	0.	1000.	270.	AG	2175.	36.1	0.0	26.6	0.00	(
2. STANIFORD ST SB FF	1.	0.	1.	1000.	1000.	360.	AG	1455.	36.1	0.0	24.3	0.00	(
3. CAMBRIDGE ST WB FF	0.	0.	1000.	0.	1000.	90.	AG	2340.	36.1	0.0	26.6	0.00	(
4. TEMPLE ST FF	7.	0.	7.	-1000.	1000.	180.	AG	180.	36.1	0.0	9.1	0.00	(
5. CAMBRIDGE EB THRU Q	-12.	-6.	-27.	-6.	15.	270.	AG	618.	100.0	0.0	10.9	0.41	2
6. CAMBRIDGE EB LEFT Q	-12.	-2.	-45.	-2.	33.	270.	AG	833.	100.0	0.0	8.4	0.68	5
7. STANIFORD SB THRU Q	-3.	14.	-3.	44.	29.	360.	AG	1760.	100.0	0.0	12.1	0.67	4
8. CAMBRIDGE WB RIGHT Q	13.	5.	27.	5.	14.	90.	AG	309.	100.0	0.0	9.1	0.39	2
9. CAMBRIDGE WB THRU Q	13.	2.	53.	2.	40.	90.	AG	666.	100.0	0.0	9.1	0.70	(
10. TEMPLE ST NB THRU Q	7.	-11.	7.	-29.	18.	180.	AG	880.	100.0	0.0	9.1	0.44	3

WARNING: THE LENGTH (33. m) OF THE QUEUE LINK # 6 IS GREATER THAN THE LENGTH (15. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (40. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (14. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	-10.	-14.	1.8
2 CHURCH	-27.	29.	1.8
3. PLAYGROUND	-12.	31.	1.8
4. BUILDING	25.	28.	1.8
5. STORE	13.	-14.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 1995 BUILD 1-HR PM STAN/CAMBRDG/TEMP

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	11.6	5.8	7.8	6.0	10.7
10.	11.4	6.2	9.1	5.4	9.6
20.	10.5	6.2	9.6	5.1	8.8
30.	9.6	6.2	10.1	5.0	8.9
40.	9.1	6.4	10.6	5.0	8.8
50.	9.2	7.0	11.0	5.0	9.0
60.	9.6	7.5	11.0	5.0	9.0
70.	10.2	8.1	11.2	5.1	9.1
80.	10.5	8.9	11.8	5.5	9.3
90.	9.9	10.0	13.0	6.4	8.4
100.	8.3	10.7	13.4	7.0	6.8
110.	7.0	10.4	13.4	7.1	5.7
120.	6.5	9.7	13.7	7.0	5.3
130.	6.1	9.0	13.9	7.1	5.3
140.	5.7	8.2	13.4	7.3	5.3
150.	5.4	7.8	12.6	7.4	5.2
160.	5.3	7.8	11.7	7.5	5.4
170.	5.2	7.7	10.4	7.7	5.7
180.	5.1	7.7	9.3	7.9	6.3
190.	5.1	7.5	8.2	7.9	7.1
200.	5.1	7.2	7.7	8.1	7.6
210.	5.1	6.9	7.6	8.1	8.0
220.	5.2	6.7	7.3	8.2	8.2
230.	5.2	6.7	7.0	8.8	8.1
240.	5.3	6.7	6.9	9.3	8.1
250.	5.7	6.8	6.7	10.0	8.5
260.	7.1	6.8	6.7	10.1	9.9
270.	9.0	6.3	6.2	9.7	11.7
280.	10.4	5.5	5.4	8.7	12.4
290.	10.8	5.1	5.1	7.9	11.8
300.	10.9	5.0	5.1	7.2	11.0
310.	10.9	5.0	5.1	6.8	10.6
320.	10.5	5.0	5.2	6.5	10.5
330.	10.1	5.0	5.3	6.4	10.7
340.	10.0	5.1	5.6	6.3	11.4
350.	10.9	5.3	6.4	6.3	11.4
360.	11.6	5.8	7.8	6.0	10.7
MAX.	11.6	0 DEGR.	10.7 100 DEGR.	13.9 130 DEGR.	10.1 260 DEGR. 12.4 280 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	11.6	0	10.7	100	13.9	130	10.1	260	12.4	280

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 1995 BUILD 8-HR PM STAN/CAMBRDG/TEMP

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAV
1. CAMBRIDGE ST EB FF	0.	0.	-1000.	0.	1000.	270.	AG	1718.	17.3	0.0	26.6	0.00	0
2. STANIFORD ST SB FF	1.	0.	1.	1000.	1000.	360.	AG	1149.	17.3	0.0	24.3	0.00	0
3. CAMBRIDGE ST WB FF	0.	0.	1000.	0.	1000.	90.	AG	1849.	17.3	0.0	26.6	0.00	0
4. TEMPLE ST FF	7.	0.	7.	-1000.	1000.	180.	AG	142.	21.6	0.0	9.1	0.00	0
5. CAMBRIDGE EB THRU Q	-12.	-6.	-23.	-6.	11.	270.	AG	387.	100.0	0.0	10.9	0.32	1
6. CAMBRIDGE EB LEFT Q	-12.	-2.	-37.	-2.	25.	270.	AG	520.	100.0	0.0	8.4	0.54	4
7. STANIFORD SB THRU Q	-3.	14.	-3.	36.	22.	360.	AG	1100.	100.0	0.0	12.1	0.52	3
8. CAMBRIDGE WB RIGHT Q	13.	5.	24.	5.	11.	90.	AG	193.	100.0	0.0	9.1	0.30	1
9. CAMBRIDGE WB THRU Q	13.	2.	43.	2.	30.	90.	AG	416.	100.0	0.0	9.1	0.55	4
10. TEMPLE ST NB THRU Q	7.	-11.	7.	-25.	14.	180.	AG	550.	100.0	0.0	9.1	0.35	2

WARNING: THE LENGTH (25. m) OF THE QUEUE LINK # 6 IS GREATER THAN THE LENGTH (11. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (30. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (11. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	-10.	-14.	1.8
2. CHURCH	-27.	29.	1.8
3. PLAYGROUND	-12.	31.	1.8
4. BUILDING	25.	28.	1.8
5. STORE	13.	-14.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 1995 BUILD 8-HR PM STAN/CAMBRDG/TEMP

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	5.8	3.3	3.8	3.4	5.4
10.	5.9	3.4	4.1	3.2	5.0
20.	5.2	3.5	4.2	3.0	4.8
30.	4.9	3.4	4.3	3.0	4.7
40.	4.7	3.4	4.6	3.0	4.7
50.	4.7	3.6	4.9	3.0	4.7
60.	4.8	3.8	5.2	3.0	4.6
70.	5.1	4.1	5.7	3.0	4.6
80.	5.4	4.6	6.4	3.2	4.6
90.	5.3	5.3	7.1	3.5	4.2
100.	4.6	5.6	7.3	3.7	3.7
110.	4.1	5.6	7.5	3.7	3.3
120.	3.7	5.2	7.7	3.7	3.1
130.	3.5	4.9	7.6	3.8	3.1
140.	3.3	4.6	7.5	3.8	3.2
150.	3.2	4.2	7.0	3.9	3.1
160.	3.1	4.3	6.6	4.1	3.1
170.	3.1	4.2	5.8	4.2	3.3
180.	3.1	4.1	5.1	4.4	3.6
190.	3.0	4.0	4.6	4.4	4.0
200.	3.0	3.8	4.2	4.5	4.3
210.	3.1	3.6	4.1	4.4	4.4
220.	3.1	3.5	3.9	4.4	4.6
230.	3.1	3.6	3.7	4.6	4.7
240.	3.1	3.6	3.6	5.1	4.8
250.	3.3	3.7	3.6	5.4	5.0
260.	3.8	3.7	3.6	5.4	5.6
270.	4.6	3.5	3.4	5.1	6.4
280.	5.2	3.2	3.2	4.6	6.6
290.	5.5	3.0	3.0	4.0	6.3
300.	5.7	3.0	3.0	3.7	5.9
310.	5.9	3.0	3.0	3.5	5.5
320.	5.7	3.0	3.1	3.4	5.5
330.	5.5	3.0	3.1	3.5	5.6
340.	5.6	3.0	3.2	3.5	5.8
350.	5.7	3.1	3.4	3.5	5.6
360.	5.8	3.3	3.8	3.4	5.4
MAX.	5.9 10 DEGR.	5.6 110 DEGR.	7.7 120 DEGR.	5.4 250 DEGR.	6.6 280 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	5.9	10	5.6	110	7.7	120	5.4	250	6.6	280

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 1995 NO-BUILD 1-HR PM STAN/CAMBRDG/TEMP

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAV
1. CAMBRIDGE ST EB FF	0.	0.	-1000.	0.	1000.	270.	AG	2130.	36.1	0.0	26.6	0.00	0
2. STANIFORD ST SB FF	1.	0.	1.	1000.	1000.	360.	AG	1410.	36.1	0.0	24.3	0.00	0
3. CAMBRIDGE ST WB FF	0.	0.	1000.	0.	1000.	90.	AG	2340.	36.1	0.0	26.6	0.00	0
4. TEMPLE ST FF	7.	0.	7.	-1000.	1000.	180.	AG	180.	36.1	0.0	9.1	0.00	0
5. CAMBRIDGE EB THRU Q	-12.	-6.	-27.	-6.	15.	270.	AG	618.	100.0	0.0	10.9	0.41	2
6. CAMBRIDGE EB LEFT Q	-12.	-2.	-43.	-2.	31.	270.	AG	833.	100.0	0.0	8.4	0.65	5
7. STANIFORD SB THRU Q	-3.	14.	-3.	42.	27.	360.	AG	1760.	100.0	0.0	12.1	0.64	4
8. CAMBRIDGE WB RIGHT Q	13.	5.	27.	5.	14.	90.	AG	309.	100.0	0.0	9.1	0.39	2
9. CAMBRIDGE WB THRU Q	13.	2.	53.	2.	40.	90.	AG	666.	100.0	0.0	9.1	0.70	6
10. TEMPLE ST NB THRU Q	7.	-11.	7.	-29.	18.	180.	AG	880.	100.0	0.0	9.1	0.44	3

WARNING: THE LENGTH (31. m) OF THE QUEUE LINK # 6 IS GREATER THAN THE LENGTH (15. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (40. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (14. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	-10.	-14.	1.8
2. CHURCH	-27.	29.	1.8
3. PLAYGROUND	-12.	31.	1.8
4. BUILDING	25.	28.	1.8
5. STORE	13.	-14.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 1995 NO-BUILD 1-HR PM STAN/CAMBRDG/TEMP

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	11.3	5.8	7.6	5.9	10.6
10.	11.3	6.2	8.7	5.4	9.6
20.	10.3	6.2	9.2	5.1	8.8
30.	9.5	6.2	9.6	5.0	8.9
40.	9.1	6.3	10.1	5.0	8.8
50.	9.2	6.7	10.5	5.0	9.0
60.	9.6	7.3	10.8	5.0	9.0
70.	10.1	7.9	11.1	5.1	9.1
80.	10.5	8.8	11.8	5.5	9.3
90.	9.9	10.0	12.9	6.4	8.4
100.	8.3	10.7	13.3	7.0	6.8
110.	7.0	10.3	13.5	7.1	5.7
120.	6.5	9.7	13.6	7.0	5.3
130.	6.1	9.0	13.8	7.1	5.3
140.	5.7	8.2	13.4	7.3	5.3
150.	5.4	7.8	12.6	7.4	5.2
160.	5.3	7.7	11.7	7.5	5.4
170.	5.2	7.7	10.4	7.7	5.7
180.	5.1	7.6	9.3	7.9	6.3
190.	5.1	7.3	8.1	7.9	7.1
200.	5.1	7.2	7.7	8.1	7.6
210.	5.1	6.8	7.5	8.1	8.0
220.	5.2	6.6	7.2	8.2	8.2
230.	5.2	6.6	6.8	8.7	8.1
240.	5.3	6.6	6.7	9.3	8.1
250.	5.7	6.8	6.6	9.8	8.5
260.	7.0	6.7	6.6	10.1	9.8
270.	8.9	6.2	6.1	9.6	11.7
280.	10.2	5.5	5.4	8.6	12.3
290.	10.6	5.1	5.1	7.7	11.6
300.	10.9	5.0	5.1	7.0	11.0
310.	10.8	5.0	5.1	6.5	10.5
320.	10.5	5.0	5.1	6.3	10.5
330.	10.1	5.0	5.2	6.2	10.5
340.	10.0	5.1	5.6	6.3	11.2
350.	10.6	5.3	6.2	6.3	11.2
360.	11.3	5.8	7.6	5.9	10.6
MAX.	11.3	0 DEGR.	10.7 100 DEGR.	13.8 130 DEGR.	10.1 260 DEGR. 12.3 280 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	11.3	0	10.7	100	13.8	130	10.1	260	12.3	280

JOB: CAL3QHC NEW BOSTON GARDEN (#9)
RUN: 1995 NO-BUILD 8-HR PM STAN/CAMBRDG/TEMP

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QA
1. CAMBRIDGE ST EB FF	0.	0.	-1000.	0.	1000.	270.	AG	1682.	17.3	0.0	26.6	0.00	
2. STANIFORD ST SB FF	1.	0.	1.	1000.	1000.	360.	AG	1114.	17.3	0.0	24.3	0.00	
3. CAMBRIDGE ST WB FF	0.	0.	1000.	0.	1000.	90.	AG	1849.	17.3	0.0	26.6	0.00	
4. TEMPLE ST FF	7.	0.	7.	-1000.	1000.	180.	AG	142.	21.6	0.0	9.1	0.00	
5. CAMBRIDGE EB THRU Q	-12.	-6.	-23.	-6.	11.	270.	AG	387.	100.0	0.0	10.9	0.32	
6. CAMBRIDGE EB LEFT Q	-12.	-2.	-35.	-2.	23.	270.	AG	520.	100.0	0.0	8.4	0.51	
7. STANIFORD SB THRU Q	-3.	14.	-3.	35.	21.	360.	AG	1100.	100.0	0.0	12.1	0.50	
8. CAMBRIDGE WB RIGHT Q	13.	5.	24.	5.	11.	90.	AG	193.	100.0	0.0	9.1	0.30	
9. CAMBRIDGE WB THRU Q	13.	2.	43.	2.	30.	90.	AG	416.	100.0	0.0	9.1	0.55	
10. TEMPLE ST NB THRU Q	7.	-11.	7.	-25.	14.	180.	AG	550.	100.0	0.0	9.1	0.35	

WARNING: THE LENGTH (23. m) OF THE QUEUE LINK # 6 IS GREATER THAN THE LENGTH (11. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (30. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (11. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	-10.	-14.	1.8
2. CHURCH	-27.	29.	1.8
3. PLAYGROUND	-12.	31.	1.8
4. BUILDING	25.	28.	1.8
5. STORE	13.	-14.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 1995 NO-BUILD 8-HR PM STAN/CAMBRDG/TEMP

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	5.8	3.3	3.8	3.4	5.3
10.	5.6	3.4	4.0	3.1	5.0
20.	5.2	3.4	4.0	3.0	4.8
30.	4.9	3.4	4.1	3.0	4.7
40.	4.7	3.4	4.3	3.0	4.7
50.	4.7	3.5	4.5	3.0	4.7
60.	4.8	3.6	4.8	3.0	4.6
70.	5.1	4.0	5.3	3.0	4.6
80.	5.4	4.5	6.1	3.2	4.6
90.	5.3	5.3	6.8	3.5	4.2
100.	4.6	5.5	7.3	3.7	3.7
110.	4.1	5.6	7.4	3.7	3.3
120.	3.7	5.1	7.6	3.7	3.1
130.	3.5	4.8	7.5	3.8	3.1
140.	3.3	4.5	7.4	3.8	3.2
150.	3.2	4.2	7.0	3.9	3.1
160.	3.1	4.3	6.6	4.1	3.1
170.	3.1	4.2	5.8	4.2	3.3
180.	3.1	4.1	5.1	4.4	3.6
190.	3.0	4.0	4.6	4.4	4.0
200.	3.0	3.7	4.2	4.5	4.3
210.	3.1	3.6	4.1	4.4	4.4
220.	3.1	3.5	3.8	4.4	4.6
230.	3.1	3.6	3.6	4.6	4.7
240.	3.1	3.6	3.6	5.0	4.8
250.	3.3	3.7	3.6	5.3	5.0
260.	3.8	3.7	3.6	5.4	5.6
270.	4.5	3.5	3.4	5.1	6.2
280.	5.1	3.2	3.2	4.5	6.6
290.	5.4	3.0	3.0	4.0	6.2
300.	5.7	3.0	3.0	3.7	5.9
310.	5.7	3.0	3.0	3.5	5.5
320.	5.7	3.0	3.1	3.4	5.5
330.	5.5	3.0	3.1	3.5	5.5
340.	5.5	3.0	3.2	3.5	5.8
350.	5.7	3.1	3.4	3.5	5.6
360.	5.8	3.3	3.8	3.4	5.3
MAX.	5.8 0 DEGR.	5.6 110 DEGR.	7.6 120 DEGR.	5.4 260 DEGR.	6.6 280 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	5.8	0	5.6	110	7.6	120	5.4	260	6.6	280

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 1995 BUILD 1-HR AM CAMBRDG/BOWD/NEWCH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M

Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAV
1. CAMBRIDGE ST W FF	0.	0.	-1000.	0.	1000.	270.	AG	2115.	36.1	0.0	28.1	0.00	0
2. NEW CHARDON ST FF	0.	0.	0.	1000.	1000.	360.	AG	895.	28.9	0.0	21.2	0.00	0
3. CAMBRIDGE ST E FF	0.	0.	1000.	0.	1000.	90.	AG	2830.	36.1	0.0	28.9	0.00	0
4. BOWDOIN ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1000.	49.9	0.0	22.8	0.00	0
5. CAMBRIDGE ST W Q	-14.	-5.	-40.	-5.	25.	270.	AG	1744.	100.0	0.0	15.1	0.54	4
6. NEW CHARDON RIGHT Q	-3.	15.	-3.	19.	4.	360.	AG	714.	100.0	0.0	9.1	0.09	0
7. NEW CHARDON THRU Q	2.	15.	2.	253.	238.	360.	AG	1797.	100.0	0.0	12.1	1.16	39
8. CAMBRIDGE ST E Q	16.	5.	35.	5.	19.	90.	AG	1533.	100.0	0.0	12.1	0.42	3
9. BOWDOIN ST Q	3.	-15.	3.	33.	48.	360.	AG	1797.	100.0	0.0	12.1	0.95	8.

WARNING: THE LENGTH (238. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (4. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (48. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (19. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SUB SHOP	-13.	-14.	1.8
2. BENCH	-12.	30.	1.8
3. COURTYARD BENCH	14.	27.	1.8
4. TELEPHONES	19.	-19.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 1995 BUILD 1-HR AM CAMBRDG/BOWD/NEWCH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	13.6	9.3	9.7	12.8
10.	14.9	11.1	7.2	10.7
20.	15.0	11.4	5.6	9.5
30.	14.8	11.1	5.1	8.8
40.	14.4	10.7	5.0	8.5
50.	14.4	10.3	5.0	8.2
60.	14.4	10.4	5.0	8.2
70.	14.6	11.0	5.2	8.5
80.	14.1	12.3	5.7	8.7
90.	12.6	14.0	6.8	7.8
100.	9.8	15.5	7.6	6.3
110.	7.6	16.2	7.8	5.4
120.	6.8	16.2	8.0	5.1
130.	6.6	15.7	8.3	5.1
140.	6.6	15.2	8.8	5.1
150.	6.8	13.8	9.0	5.0
160.	7.1	12.3	9.2	5.1
170.	7.3	10.9	9.9	5.5
180.	6.9	9.7	11.1	6.2
190.	6.0	8.8	12.7	6.6
200.	5.5	8.3	14.2	6.6
210.	5.3	8.1	15.3	6.4
220.	5.3	7.6	16.4	6.3
230.	5.4	7.1	16.9	6.2
240.	5.5	6.8	17.3	6.1
250.	6.0	6.8	17.1	6.5
260.	7.6	6.7	16.9	7.6
270.	10.0	6.2	16.1	9.8
280.	11.7	5.5	14.8	11.7
290.	12.3	5.1	13.5	12.6
300.	12.5	5.0	12.7	12.7
310.	12.3	5.0	12.2	12.8
320.	11.8	5.1	12.1	13.4
330.	11.0	5.2	12.2	14.0
340.	10.8	5.6	12.2	14.8
350.	11.6	7.0	11.6	14.3
360.	13.6	9.3	9.7	12.8
MAX.	15.0 20 DEGR.	16.2 110 DEGR.	17.3 240 DEGR.	14.8 340 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	15.0	20	16.2	110	17.3	240	14.8	340

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 1995 BUILD 8-HR AM CAMBRDG/BOWD/NEWCH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M

Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAV
1. CAMBRIDGE ST W FF	0.	0.	-1000.	0.	1000.	270.	AG	1671.	17.3	0.0	28.1	0.00	0
2. NEW CHARDON ST FF	0.	0.	0.	1000.	1000.	360.	AG	707.	14.4	0.0	21.2	0.00	0
3. CAMBRIDGE ST E FF	0.	0.	1000.	0.	1000.	90.	AG	2236.	17.3	0.0	28.9	0.00	0
4. BOWDOIN ST FF	0.	0.	0.	-1000.	1000.	180.	AG	790.	17.3	0.0	22.8	0.00	0
5. CAMBRIDGE ST W Q	-14.	-5.	-34.	-5.	19.	270.	AG	1091.	100.0	0.0	15.1	0.42	3
6. NEW CHARDON RIGHT Q	-3.	15.	-3.	18.	3.	360.	AG	446.	100.0	0.0	9.1	0.07	0
7. NEW CHARDON THRU Q	2.	15.	2.	59.	43.	360.	AG	1124.	100.0	0.0	12.1	0.92	7
8. CAMBRIDGE ST E Q	16.	5.	30.	5.	14.	90.	AG	958.	100.0	0.0	12.1	0.33	2
9. BOWDOIN ST Q	3.	-15.	3.	13.	29.	360.	AG	1124.	100.0	0.0	12.1	0.75	4

WARNING: THE LENGTH (43. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (3. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (29. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (14. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SUB SHOP	-13.	-14.	1.8
2. BENCH	-12.	30.	1.8
3. COURTYARD BENCH	14.	27.	1.8
4. TELEPHONES	19.	-19.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 1995 BUILD 8-HR AM CAMBRDG/BOWD/NEWCH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	6.1	3.7	3.8	5.8
10.	6.4	4.2	3.4	5.2
20.	6.8	4.8	3.1	4.8
30.	7.0	5.4	3.0	4.5
40.	7.2	5.7	3.0	4.3
50.	7.3	5.9	3.0	4.1
60.	7.5	5.9	3.0	4.2
70.	7.3	5.8	3.1	4.3
80.	7.1	6.0	3.3	4.4
90.	6.3	6.4	3.7	4.1
100.	5.0	6.8	4.0	3.5
110.	4.0	7.0	4.1	3.2
120.	3.5	7.2	4.1	3.0
130.	3.4	7.4	4.3	3.0
140.	3.4	7.2	4.6	3.0
150.	3.5	7.0	4.8	3.0
160.	3.6	6.2	5.0	3.0
170.	3.6	5.8	5.2	3.1
180.	3.5	5.2	5.8	3.3
190.	3.3	4.7	6.2	3.4
200.	3.1	4.5	6.8	3.4
210.	3.1	4.2	7.0	3.4
220.	3.1	4.0	7.4	3.4
230.	3.1	3.8	7.2	3.3
240.	3.2	3.7	7.1	3.3
250.	3.4	3.6	6.9	3.5
260.	4.0	3.6	6.8	4.0
270.	5.1	3.4	6.5	5.0
280.	5.9	3.2	6.2	6.0
290.	6.4	3.0	6.0	6.5
300.	6.6	3.0	6.1	6.8
310.	6.7	3.0	6.2	6.7
320.	6.5	3.0	6.1	6.8
330.	6.3	3.0	5.9	6.9
340.	5.9	3.1	5.4	6.9
350.	5.8	3.3	4.6	6.4
360.	6.1	3.7	3.8	5.8
MAX.	7.5 60 DEGR.	7.4 130 DEGR.	7.4 220 DEGR.	6.9 330 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	7.5	60	7.4	130	7.4	220	6.9	330

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 1995 NO-BUILD 1-HR AM CAMBRDG/BOWD/NEWCH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850.
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	Q
1. CAMBRIDGE ST W FF	0.	0.	-1000.	0.	1000.	270.	AG	2115.	36.1	0.0	28.1	0.00	
2. NEW CHARDON ST FF	0.	0.	0.	1000.	1000.	360.	AG	895.	28.9	0.0	21.2	0.00	
3. CAMBRIDGE ST E FF	0.	0.	1000.	0.	1000.	90.	AG	2830.	36.1	0.0	28.9	0.00	
4. BOWDOIN ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1000.	49.9	0.0	22.8	0.00	
5. CAMBRIDGE ST W Q	-14.	-5.	-40.	-5.	25.	270.	AG	1744.	100.0	0.0	15.1	0.54	
6. NEW CHARDON RIGHT Q	-3.	15.	-3.	19.	4.	360.	AG	714.	100.0	0.0	9.1	0.09	
7. NEW CHARDON THRU Q	2.	15.	2.	253.	238.	360.	AG	1797.	100.0	0.0	12.1	1.16	
8. CAMBRIDGE ST E Q	16.	5.	35.	5.	19.	90.	AG	1533.	100.0	0.0	12.1	0.42	
9. BOWDOIN ST Q	3.	-15.	3.	33.	48.	360.	AG	1797.	100.0	0.0	12.1	0.95	

WARNING: THE LENGTH (238. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (4. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (48. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (19. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SUB SHOP	-13.	-14.	1.8
2. BENCH	-12.	30.	1.8
3. COURTYARD BENCH	14.	27.	1.8
4. TELEPHONES	19.	-19.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 1995 NO-BUILD 1-HR AM CAMBRDG/BOWD/NEWCH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	13.6	9.3	9.7	12.8
10.	14.9	11.1	7.2	10.7
20.	15.0	11.4	5.6	9.5
30.	14.8	11.1	5.1	8.8
40.	14.4	10.7	5.0	8.5
50.	14.4	10.3	5.0	8.2
60.	14.4	10.4	5.0	8.2
70.	14.6	11.0	5.2	8.5
80.	14.1	12.3	5.7	8.7
90.	12.6	14.0	6.8	7.8
100.	9.8	15.5	7.6	6.3
110.	7.6	16.2	7.8	5.4
120.	6.8	16.2	8.0	5.1
130.	6.6	15.7	8.3	5.1
140.	6.6	15.2	8.8	5.1
150.	6.8	13.8	9.0	5.0
160.	7.1	12.3	9.2	5.1
170.	7.3	10.9	9.9	5.5
180.	6.9	9.7	11.1	6.2
190.	6.0	8.8	12.7	6.6
200.	5.5	8.3	14.2	6.6
210.	5.3	8.1	15.3	6.4
220.	5.3	7.6	16.4	6.3
230.	5.4	7.1	16.9	6.2
240.	5.5	6.8	17.3	6.1
250.	6.0	6.8	17.1	6.5
260.	7.6	6.7	16.9	7.6
270.	10.0	6.2	16.1	9.8
280.	11.7	5.5	14.8	11.7
290.	12.3	5.1	13.5	12.6
300.	12.5	5.0	12.7	12.7
310.	12.3	5.0	12.2	12.8
320.	11.8	5.1	12.1	13.4
330.	11.0	5.2	12.2	14.0
340.	10.8	5.6	12.2	14.8
350.	11.6	7.0	11.6	14.3
360.	13.6	9.3	9.7	12.8
MAX.	15.0 20 DEGR.	16.2 110 DEGR.	17.3 240 DEGR.	14.8 340 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	15.0	20	16.2	110	17.3	240	14.8	340

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 1995 NO-BUILD 8-HR AM CAMBRDG/BOWD/NEWCH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAV
1. CAMBRIDGE ST W FF	0.	0.	-1000.	0.	1000.	270.	AG	1671.	17.3	0.0	28.1	0.00	0
2. NEW CHARDON ST FF	0.	0.	0.	1000.	1000.	360.	AG	707.	14.4	0.0	21.2	0.00	0
3. CAMBRIDGE ST E FF	0.	0.	1000.	0.	1000.	90.	AG	2236.	17.3	0.0	28.9	0.00	0
4. BOWDOIN ST FF	0.	0.	0.	-1000.	1000.	180.	AG	790.	17.3	0.0	22.8	0.00	0
5. CAMBRIDGE ST W Q	-14.	-5.	-34.	-5.	19.	270.	AG	1091.	100.0	0.0	15.1	0.42	3
6. NEW CHARDON RIGHT Q	-3.	15.	-3.	18.	3.	360.	AG	446.	100.0	0.0	9.1	0.07	0
7. NEW CHARDON THRU Q	2.	15.	2.	59.	43.	360.	AG	1124.	100.0	0.0	12.1	0.92	7
8. CAMBRIDGE ST E Q	16.	5.	30.	5.	14.	90.	AG	958.	100.0	0.0	12.1	0.33	2
9. BOWDOIN ST Q	3.	-15.	3.	13.	29.	360.	AG	1124.	100.0	0.0	12.1	0.75	4

WARNING: THE LENGTH (43. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (3. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (29. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (14. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SUB SHOP	-13.	-14.	1.8
2. BENCH	-12.	30.	1.8
3. COURTYARD BENCH	14.	27.	1.8
4. TELEPHONES	19.	-19.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 1995 NO-BUILD 8-HR AM CAMBRDG/BOWD/NEWCH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	6.1	3.7	3.8	5.8
10.	6.4	4.2	3.4	5.2
20.	6.8	4.8	3.1	4.8
30.	7.0	5.4	3.0	4.5
40.	7.2	5.7	3.0	4.3
50.	7.3	5.9	3.0	4.1
60.	7.5	5.9	3.0	4.2
70.	7.3	5.8	3.1	4.3
80.	7.1	6.0	3.3	4.4
90.	6.3	6.4	3.7	4.1
100.	5.0	6.8	4.0	3.5
110.	4.0	7.0	4.1	3.2
120.	3.5	7.2	4.1	3.0
130.	3.4	7.4	4.3	3.0
140.	3.4	7.2	4.6	3.0
150.	3.5	7.0	4.8	3.0
160.	3.6	6.2	5.0	3.0
170.	3.6	5.8	5.2	3.1
180.	3.5	5.2	5.8	3.3
190.	3.3	4.7	6.2	3.4
200.	3.1	4.5	6.8	3.4
210.	3.1	4.2	7.0	3.4
220.	3.1	4.0	7.4	3.4
230.	3.1	3.8	7.2	3.3
240.	3.2	3.7	7.1	3.3
250.	3.4	3.6	6.9	3.5
260.	4.0	3.6	6.8	4.0
270.	5.1	3.4	6.5	5.0
280.	5.9	3.2	6.2	6.0
290.	6.4	3.0	6.0	6.5
300.	6.6	3.0	6.1	6.8
310.	6.7	3.0	6.2	6.7
320.	6.5	3.0	6.1	6.8
330.	6.3	3.0	5.9	6.9
340.	5.9	3.1	5.4	6.9
350.	5.8	3.3	4.6	6.4
360.	6.1	3.7	3.8	5.8
MAX.	7.5 60 DEGR.	7.4 130 DEGR.	7.4 220 DEGR.	6.9 330 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	7.5	60	7.4	130	7.4	220	6.9	330

JOB: CALQ3HC NEW BOSTON GARDEN (#4)
RUN: 2000 BUILD 1-HR AM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QA
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	1911.	24.8	0.0	19.4	0.00	
2. CAUSEWAY ST TH/LT FF	-9.	9.	757.	652.	1000.	50.	AG	1628.	31.1	0.0	19.4	0.00	
3. CAUSEWAY RIGHT FF	-18.	15.	747.	658.	1000.	50.	AG	135.	31.1	0.0	9.7	0.00	
4. MERRIMAC ST FF	0.	-27.	1000.	-27.	1000.	90.	AG	1445.	31.1	0.0	24.3	0.00	
5. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	2119.	24.8	0.0	24.3	0.00	
6. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	8710.	24.8	7.6	24.3	0.00	
7. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	8710.	24.8	7.6	24.3	0.00	
8. LOMASNEY WAY THRU Q	-23.	8.	-54.	33.	40.	309.	AG	1074.	100.0	0.0	12.1	0.72	
9. LOMASNEY WAY LEFT Q	-18.	9.	-44.	30.	34.	310.	AG	537.	100.0	0.0	9.1	0.63	
10. CAUSEWAY THRU/LEFT Q	-3.	24.	20.	43.	30.	50.	AG	1215.	100.0	0.0	12.1	0.62	
11. STANIFORD ST Q	5.	-26.	5.	-100.	74.	180.	AG	1092.	100.0	0.0	12.1	0.97	1
12. MERRIMAC STREET QUEU	14.	-21.	33.	-21.	19.	90.	AG	1285.	100.0	0.0	12.1	0.45	

WARNING: THE LENGTH (74. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (30. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	43.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8
5. PROPOSED HOUSING	-24.	-15.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 2000 BUILD 1-HR AM CAUSE/LOM/STAN/MER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	5.9	9.7	7.0	9.1	8.5
10.	5.7	9.2	6.5	8.4	8.1
20.	5.3	8.6	6.2	7.7	8.0
30.	5.2	8.3	6.1	7.3	8.1
40.	5.3	8.2	6.1	6.9	8.2
50.	5.9	7.8	5.7	6.6	8.1
60.	6.5	6.6	5.2	6.4	7.2
70.	6.7	5.7	5.1	6.5	6.7
80.	7.2	5.5	5.4	6.5	7.2
90.	7.9	5.7	6.0	6.1	8.2
100.	8.4	5.9	6.3	5.5	8.5
110.	8.7	5.8	6.4	5.1	8.2
120.	8.8	5.8	6.5	5.0	8.1
130.	8.8	5.9	6.8	5.0	7.9
140.	9.0	6.0	7.2	5.0	8.0
150.	9.1	6.5	7.7	5.0	7.9
160.	9.4	7.2	8.2	5.1	7.4
170.	9.5	8.3	9.1	5.5	6.9
180.	9.1	9.2	10.3	6.3	6.2
190.	8.0	9.2	11.1	7.0	5.4
200.	7.4	8.2	11.2	7.7	5.1
210.	7.3	7.3	10.3	8.1	5.0
220.	7.5	7.0	9.2	8.2	5.0
230.	7.6	7.2	8.1	8.2	5.0
240.	7.4	7.6	7.2	8.0	5.0
250.	7.0	8.1	6.5	8.0	5.0
260.	6.6	8.7	6.4	8.0	5.0
270.	6.5	9.5	6.9	8.0	5.0
280.	6.8	10.3	7.7	8.3	5.2
290.	7.3	10.7	8.9	9.1	5.7
300.	7.4	10.7	9.4	10.0	6.4
310.	6.8	10.3	9.0	10.7	7.2
320.	6.2	10.0	8.4	10.9	8.2
330.	6.0	9.9	7.8	10.2	8.7
340.	6.0	9.8	7.8	9.9	9.2
350.	6.0	9.9	7.5	9.4	9.0
360.	5.9	9.7	7.0	9.1	8.5
MAX.	9.5 170 DEGR.	10.7 300 DEGR.	11.2 200 DEGR.	10.9 320 DEGR.	9.2 340 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	9.5	170	10.7	300	11.2	200	10.9	320	9.2	340

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 2000 BUILD 8-HR AM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850.
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	1510.	15.0	0.0	19.4	0.00
2. CAUSEWAY ST RT/LT FF	-9.	9.	757.	652.	1000.	50.	AG	1286.	15.0	0.0	19.4	0.00
3. CAUSEWAY RIGHT FF	-18.	15.	747.	658.	1000.	50.	AG	107.	15.0	0.0	9.7	0.00
4. MERRIMAC ST FF	0.	-27.	1000.	-27.	1000.	90.	AG	1142.	15.0	0.0	24.3	0.00
5. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1674.	15.0	0.0	24.3	0.00
6. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	6881.	12.5	7.6	24.3	0.00
7. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	6881.	12.5	7.6	24.3	0.00
8. LOMASNEY WAY THRU Q	-23.	8.	-46.	26.	30.	308.	AG	685.	100.0	0.0	12.1	0.57
9. LOMASNEY WAY LEFT Q	-18.	9.	-38.	25.	26.	310.	AG	343.	100.0	0.0	9.1	0.50
10. CAUSEWAY THRU/LEFT Q	-3.	24.	14.	39.	23.	50.	AG	775.	100.0	0.0	12.1	0.48
11. STANIFORD ST Q	5.	-26.	5.	-69.	43.	180.	AG	696.	100.0	0.0	12.1	0.76
12. MERRIMAC STREET QUEU	14.	-21.	38.	-21.	24.	90.	AG	820.	100.0	0.0	12.1	0.57

WARNING: THE LENGTH (43. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (23. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	43.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8
5. PROPOSED HOUSING	-24.	-15.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 2000 BUILD 8-HR AM CAUSE/LOM/STAN/MER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	3.4	5.0	3.7	5.1	4.8
10.	3.3	4.7	3.5	4.9	4.6
20.	3.1	4.3	3.3	4.5	4.4
30.	3.0	4.2	3.4	4.3	4.5
40.	3.1	4.1	3.4	4.0	4.4
50.	3.3	4.0	3.3	3.8	4.3
60.	3.4	3.6	3.1	3.5	3.9
70.	3.5	3.3	3.0	3.6	3.8
80.	3.7	3.2	3.2	3.6	4.0
90.	4.1	3.3	3.4	3.4	4.6
100.	4.5	3.4	3.6	3.2	4.8
110.	4.7	3.3	3.7	3.1	4.7
120.	4.8	3.4	4.0	3.0	4.6
130.	5.0	3.4	4.3	3.0	4.5
140.	5.0	3.6	4.6	3.0	4.5
150.	5.2	3.8	4.9	3.0	4.3
160.	5.3	4.2	5.0	3.0	4.0
170.	5.2	4.6	5.4	3.2	3.7
180.	5.0	5.1	5.9	3.5	3.5
190.	4.5	4.9	6.1	3.7	3.2
200.	4.3	4.7	6.2	3.9	3.0
210.	4.3	4.0	5.8	4.0	3.0
220.	4.4	3.9	5.2	4.3	3.0
230.	4.4	3.9	4.6	4.5	3.0
240.	4.1	4.1	4.1	4.7	3.0
250.	3.8	4.5	3.7	4.7	3.0
260.	3.6	4.8	3.7	4.7	3.0
270.	3.6	5.2	3.9	4.7	3.0
280.	3.8	5.4	4.2	4.9	3.1
290.	4.0	5.6	4.8	5.2	3.2
300.	4.0	5.5	5.2	5.4	3.6
310.	3.7	5.5	4.9	5.9	4.0
320.	3.5	5.5	4.5	5.8	4.3
330.	3.4	5.3	4.3	5.7	4.8
340.	3.4	5.3	4.2	5.4	5.0
350.	3.4	5.2	4.0	5.3	5.0
360.	3.4	5.0	3.7	5.1	4.8
MAX.	5.3 160 DEGR.	5.6 290 DEGR.	6.2 200 DEGR.	5.9 310 DEGR.	5.0 340 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	5.3	160	5.6	290	6.2	200	5.9	310	5.0	340

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 2000 NO-BUILD 1-HR AM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850.
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	Q
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	1875.	24.8	0.0	19.4	0.00	.0
2. CAUSEWAY ST TH/LT FF	-9.	9.	757.	652.	1000.	50.	AG	1590.	31.1	0.0	19.4	0.00	.0
3. CAUSEWAY RIGHT FF	-18.	15.	747.	658.	1000.	50.	AG	135.	31.1	0.0	9.7	0.00	.0
4. MERRIMAC ST FF	0.	-27.	1000.	-27.	1000.	90.	AG	1445.	31.1	0.0	24.3	0.00	.0
5. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	2045.	24.8	0.0	24.3	0.00	.0
6. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	8425.	24.8	7.6	24.3	0.00	.0
7. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	8425.	24.8	7.6	24.3	0.00	.0
8. LOMASNEY WAY THRU Q	-23.	8.	-54.	33.	40.	309.	AG	1074.	100.0	0.0	12.1	0.72	.7
9. LOMASNEY WAY LEFT Q	-18.	9.	-44.	30.	34.	310.	AG	537.	100.0	0.0	9.1	0.63	.6
10. CAUSEWAY THRU/LEFT Q	-3.	24.	20.	43.	30.	50.	AG	1215.	100.0	0.0	12.1	0.62	.9
11. STANIFORD ST Q	5.	-26.	5.	-87.	61.	180.	AG	1092.	100.0	0.0	12.1	0.91	.1
12. MERRIMAC STREET QUEU	14.	-21.	33.	-21.	19.	90.	AG	1285.	100.0	0.0	12.1	0.45	.2

WARNING: THE LENGTH (61. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (30. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	43.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8
5. PROPOSED HOUSING	-24.	-15.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 2000 NO-BUILD 1-HR AM CAUSE/LOM/STAN/MER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	5.9	9.7	7.0	9.0	8.5
10.	5.6	9.2	6.4	8.4	8.1
20.	5.3	8.5	6.2	7.6	8.0
30.	5.2	8.3	6.1	7.3	8.1
40.	5.3	8.2	6.0	6.9	8.2
50.	5.9	7.7	5.7	6.6	8.0
60.	6.3	6.6	5.2	6.4	7.2
70.	6.6	5.7	5.1	6.5	6.6
80.	7.1	5.5	5.4	6.5	7.2
90.	7.9	5.7	6.0	6.1	8.2
100.	8.4	5.9	6.3	5.5	8.5
110.	8.7	5.8	6.4	5.1	8.2
120.	8.8	5.8	6.5	5.0	8.0
130.	8.8	5.9	6.8	5.0	7.8
140.	9.0	6.0	7.2	5.0	7.8
150.	9.0	6.4	7.7	5.0	7.6
160.	9.4	7.1	8.1	5.1	7.2
170.	9.4	8.3	9.0	5.4	6.7
180.	9.0	9.1	10.2	6.0	6.0
190.	7.9	9.1	11.0	6.8	5.4
200.	7.4	7.9	11.0	7.2	5.1
210.	7.3	7.2	10.2	7.7	5.0
220.	7.5	6.9	9.1	8.0	5.0
230.	7.6	7.2	8.1	8.1	5.0
240.	7.4	7.6	7.1	7.9	5.0
250.	7.0	8.1	6.5	8.0	5.0
260.	6.6	8.7	6.3	8.0	5.0
270.	6.5	9.4	6.8	8.0	5.0
280.	6.7	10.1	7.6	8.3	5.2
290.	7.2	10.6	8.8	9.1	5.7
300.	7.2	10.6	9.4	9.9	6.4
310.	6.7	10.3	9.0	10.7	7.2
320.	6.2	9.9	8.3	10.7	8.0
330.	6.0	9.9	7.7	10.1	8.7
340.	5.9	9.7	7.7	9.9	9.1
350.	6.0	9.8	7.4	9.4	8.9
360.	5.9	9.7	7.0	9.0	8.5
MAX.	9.4 160 DEGR.	10.6 290 DEGR.	11.0 190 DEGR.	10.7 310 DEGR.	9.1 340 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	9.4	160	10.6	290	11.0	190	10.7	310	9.1	340

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 2000 NO-BUILD 8-HR AM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAV
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	1481.	15.0	0.0	19.4	0.00	(
2. CAUSEWAY ST RT/LT FF	-9.	9.	757.	652.	1000.	50.	AG	1256.	15.0	0.0	19.4	0.00	(
3. CAUSEWAY RIGHT FF	-18.	15.	747.	658.	1000.	50.	AG	107.	15.0	0.0	9.7	0.00	(
4. MERRIMAC ST FF	0.	-27.	1000.	-27.	1000.	90.	AG	1142.	15.0	0.0	24.3	0.00	(
5. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1616.	15.0	0.0	24.3	0.00	(
6. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	6656.	12.5	7.6	24.3	0.00	(
7. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	6656.	12.5	7.6	24.3	0.00	(
8. LOMASNEY WAY THRU Q	-23.	8.	-46.	26.	30.	308.	AG	685.	100.0	0.0	12.1	0.57	4
9. LOMASNEY WAY LEFT Q	-18.	9.	-38.	25.	26.	310.	AG	343.	100.0	0.0	9.1	0.50	4
10. CAUSEWAY THRU/LEFT Q	-3.	24.	14.	39.	22.	50.	AG	775.	100.0	0.0	12.1	0.48	3
11. STANIFORD ST Q	5.	-26.	5.	-65.	39.	180.	AG	696.	100.0	0.0	12.1	0.72	6
12. MERRIMAC STREET QUEU	14.	-21.	38.	-21.	24.	90.	AG	820.	100.0	0.0	12.1	0.57	4

WARNING: THE LENGTH (39. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (22. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	43.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8
5. PROPOSED HOUSING	-24.	-15.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 2000 NO-BUILD 8-HR AM CAUSE/LOM/STAN/MER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	3.4	5.0	3.7	5.1	4.8
10.	3.3	4.7	3.5	4.9	4.6
20.	3.1	4.3	3.3	4.5	4.4
30.	3.0	4.1	3.4	4.3	4.5
40.	3.1	4.1	3.4	4.0	4.4
50.	3.3	4.0	3.2	3.8	4.3
60.	3.4	3.6	3.1	3.5	3.9
70.	3.5	3.3	3.0	3.6	3.8
80.	3.7	3.2	3.2	3.6	4.0
90.	4.1	3.3	3.4	3.4	4.6
100.	4.4	3.4	3.6	3.2	4.8
110.	4.7	3.3	3.7	3.1	4.7
120.	4.8	3.4	4.0	3.0	4.6
130.	5.0	3.4	4.3	3.0	4.5
140.	5.0	3.6	4.6	3.0	4.4
150.	5.1	3.8	4.9	3.0	4.2
160.	5.1	4.2	5.0	3.0	3.9
170.	5.2	4.6	5.4	3.2	3.7
180.	5.0	5.0	5.9	3.4	3.4
190.	4.5	4.9	6.1	3.6	3.2
200.	4.3	4.5	6.2	3.7	3.0
210.	4.3	4.0	5.8	3.9	3.0
220.	4.4	3.9	5.2	4.1	3.0
230.	4.4	3.9	4.6	4.3	3.0
240.	4.1	4.1	4.1	4.6	3.0
250.	3.8	4.5	3.7	4.7	3.0
260.	3.6	4.7	3.6	4.7	3.0
270.	3.6	5.1	3.9	4.7	3.0
280.	3.7	5.4	4.2	4.9	3.1
290.	3.9	5.5	4.8	5.2	3.2
300.	4.0	5.5	5.1	5.4	3.6
310.	3.7	5.5	4.8	5.9	4.0
320.	3.5	5.5	4.5	5.6	4.3
330.	3.4	5.3	4.3	5.7	4.7
340.	3.4	5.2	4.2	5.4	4.9
350.	3.4	5.2	4.0	5.3	5.0
360.	3.4	5.0	3.7	5.1	4.8
MAX.	5.2 170 DEGR.	5.5 290 DEGR.	6.2 200 DEGR.	5.9 310 DEGR.	5.0 350 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	5.2	170	5.5	290	6.2	200	5.9	310	5.0	350

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 2000 1-HR AM BUILD CAUSEWAY/CANAL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M

Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QA
1. CAUSEWAY N FF	0.	0.	0.	1000.	1000.	360.	AG	1998.	31.1	0.0	28.9	0.00	
2. CAUSEWAY S FF	0.	0.	0.	-1000.	1000.	180.	AG	1903.	31.1	0.0	28.9	0.00	
3. CANAL ST FF	0.	0.	1000.	0.	1000.	90.	AG	325.	24.8	0.0	12.1	0.00	
4. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-152.	152.	180.	BR	8710.	24.8	7.6	24.3	0.00	
5. RAMPS T/F LEVER/I-93	-179.	0.	-179.	152.	152.	360.	BR	8710.	24.8	7.6	24.3	0.00	
6. I-93 NB/SB	0.	152.	305.	152.	305.	90.	BR	15825.	20.7	7.6	32.6	0.00	
7. CANAL ST Q	18.	2.	118.	2.	100.	90.	AG	125.	46.0	0.0	12.1	0.00	

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SPORTS CAFE	-15.	-6.	1.8
2. T STATION	15.	11.	1.8
3. 125 CAUSEWAY	14.	-12.	1.8
4. FUTURE PORTAL ENTRAN	-23.	0.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 2000 1-HR AM BUILD CAUSEWAY/CANAL

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	7.7	8.6	8.7	6.7
10.	8.7	7.9	8.0	7.7
20.	8.8	7.2	7.3	8.1
30.	8.8	7.0	7.0	8.2
40.	8.6	7.0	6.9	8.2
50.	8.5	6.9	6.8	8.1
60.	8.0	6.5	6.5	7.7
70.	7.5	5.7	5.8	7.1
80.	7.2	5.4	5.5	6.7
90.	7.0	5.3	5.3	6.6
100.	6.8	5.5	5.1	6.6
110.	6.5	5.5	5.1	6.3
120.	6.5	5.5	5.1	6.3
130.	6.6	5.4	5.2	6.3
140.	6.8	5.3	5.2	6.4
150.	7.1	5.4	5.3	6.6
160.	7.3	5.6	5.5	6.7
170.	7.6	6.4	6.3	6.8
180.	7.2	7.5	7.4	6.3
190.	6.2	7.9	7.7	5.5
200.	5.5	7.7	7.5	5.1
210.	5.3	7.3	7.1	5.1
220.	5.5	7.3	7.0	5.4
230.	5.7	7.4	7.1	5.7
240.	6.0	7.5	7.3	5.9
250.	6.0	7.6	7.3	6.0
260.	6.0	7.5	7.4	6.0
270.	6.0	7.6	7.5	6.0
280.	6.0	7.5	7.5	6.0
290.	6.0	7.3	7.6	6.1
300.	5.9	7.3	7.7	5.9
310.	5.7	7.1	7.5	5.7
320.	5.4	7.0	7.5	5.4
330.	5.2	7.1	7.5	5.1
340.	5.4	7.7	8.0	5.1
350.	6.4	8.5	8.6	5.7
360.	7.7	8.6	8.7	6.7
MAX.	8.8 20 DEGR.	8.6 0 DEGR.	8.7 0 DEGR.	8.2 30 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	8.8	20	8.6	0	8.7	0	8.2	30

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 2000 8-HR AM BUILD CAUSEWAY/CANAL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M

Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QA
1. CAUSEWAY N FF	0.	0.	0.	1000.	1000.	360.	AG	1578.	15.0	0.0	28.9	0.00	0
2. CAUSEWAY S FF	0.	0.	0.	-1000.	1000.	180.	AG	1503.	15.0	0.0	28.9	0.00	0
3. CANAL ST FF	0.	0.	1000.	0.	1000.	90.	AG	257.	15.0	0.0	12.1	0.00	0
4. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-152.	152.	180.	BR	6881.	12.5	7.6	24.3	0.00	0
5. RAMPS T/F LEVER/I-93	-179.	0.	-179.	152.	152.	360.	BR	6881.	12.5	7.6	24.3	0.00	0
6. I-93 NB/SB	0.	152.	305.	152.	305.	90.	BR	12502.	8.4	7.6	32.6	0.00	0
7. CANAL ST Q	18.	2.	118.	2.	100.	90.	AG	99.	114.0	0.0	12.1	0.00	0

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SPORTS CAFE	-15.	-6.	1.8
2. T STATION	15.	11.	1.8
3. 125 CAUSEWAY	14.	-12.	1.8
4. FUTURE PORTAL ENTRAN	-23.	0.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 2000 8-HR AM BUILD CAUSEWAY/CANAL

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	4.0	4.3	4.5	3.6
10.	4.3	4.0	4.1	4.0
20.	4.3	3.7	3.9	4.1
30.	4.3	3.7	3.8	4.1
40.	4.3	3.7	3.8	4.2
50.	4.2	3.7	3.9	4.1
60.	4.2	3.5	3.7	4.0
70.	4.0	3.2	3.5	3.9
80.	3.9	3.3	3.3	3.7
90.	3.9	3.4	3.2	3.7
100.	3.7	3.5	3.2	3.6
110.	3.5	3.5	3.0	3.6
120.	3.6	3.5	3.0	3.4
130.	3.6	3.4	3.1	3.5
140.	3.7	3.4	3.1	3.5
150.	3.8	3.3	3.1	3.6
160.	3.9	3.4	3.2	3.7
170.	4.0	3.6	3.5	3.7
180.	3.9	4.0	3.9	3.5
190.	3.5	4.1	4.0	3.2
200.	3.2	4.0	3.9	3.0
210.	3.1	3.9	3.8	3.0
220.	3.2	3.9	3.7	3.1
230.	3.3	4.0	3.7	3.3
240.	3.3	4.0	3.9	3.4
250.	3.4	3.9	3.9	3.4
260.	3.4	3.9	3.9	3.4
270.	3.4	3.9	3.9	3.4
280.	3.4	3.9	3.9	3.4
290.	3.4	3.9	3.9	3.4
300.	3.4	3.9	3.9	3.4
310.	3.3	3.8	4.0	3.3
320.	3.1	3.7	3.9	3.1
330.	3.0	3.8	4.0	3.0
340.	3.2	4.0	4.2	3.1
350.	3.5	4.2	4.4	3.2
360.	4.0	4.3	4.5	3.6
MAX.	4.3 10 DEGR.	4.3 0 DEGR.	4.5 0 DEGR.	4.2 40 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	4.3	10	4.3	0	4.5	0	4.2	40

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 2000 1-HR AM NO-BUILD CAUSEWAY/CANAL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QA
1. CAUSEWAY N FF	0.	0.	0.	1000.	1000.	360.	AG	1960.	31.1	0.0	28.9	0.00	
2. CAUSEWAY S FF	0.	0.	0.	-1000.	1000.	180.	AG	1855.	31.1	0.0	28.9	0.00	
3. CANAL ST FF	0.	0.	1000.	0.	1000.	90.	AG	325.	24.8	0.0	12.1	0.00	
4. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-152.	152.	180.	BR	8425.	24.8	7.6	24.3	0.00	
5. RAMPS T/F LEVER/I-93	-179.	0.	-179.	152.	152.	360.	BR	8425.	24.8	7.6	24.3	0.00	
6. I-93 NB/SB	0.	152.	305.	152.	305.	90.	BR	15720.	20.7	7.6	32.6	0.00	
7. CANAL ST Q	18.	2.	118.	2.	100.	90.	AG	125.	53.0	0.0	12.1	0.00	

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SPORTS CAFE	-15.	-6.	1.8
2. T STATION	15.	11.	1.8
3. 125 CAUSEWAY	14.	-12.	1.8
4. FUTURE PORTAL ENTRAN	-23.	0.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 2000 1-HR AM NO-BUILD CAUSEWAY/CANAL

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	7.7	8.5	8.7	6.7
10.	8.6	7.8	8.0	7.7
20.	8.8	7.2	7.3	8.1
30.	8.7	7.0	7.0	8.2
40.	8.6	7.0	6.9	8.2
50.	8.5	6.9	6.9	8.0
60.	8.0	6.5	6.5	7.7
70.	7.4	5.7	5.9	7.0
80.	7.0	5.4	5.5	6.7
90.	7.0	5.3	5.3	6.6
100.	6.8	5.5	5.1	6.5
110.	6.5	5.5	5.1	6.3
120.	6.5	5.5	5.1	6.2
130.	6.6	5.4	5.2	6.3
140.	6.8	5.4	5.2	6.4
150.	7.0	5.4	5.3	6.5
160.	7.3	5.6	5.5	6.7
170.	7.6	6.4	6.3	6.7
180.	7.2	7.3	7.3	6.2
190.	6.2	7.8	7.7	5.5
200.	5.4	7.6	7.4	5.1
210.	5.3	7.3	7.0	5.1
220.	5.5	7.3	6.9	5.4
230.	5.7	7.4	7.0	5.7
240.	5.9	7.5	7.1	5.9
250.	5.9	7.6	7.2	5.9
260.	6.0	7.5	7.3	6.0
270.	6.0	7.4	7.4	6.0
280.	6.0	7.3	7.5	6.0
290.	6.0	7.3	7.6	6.0
300.	5.9	7.2	7.5	5.9
310.	5.7	7.0	7.4	5.7
320.	5.3	7.0	7.3	5.4
330.	5.2	7.1	7.3	5.1
340.	5.4	7.6	8.0	5.1
350.	6.3	8.4	8.6	5.7
360.	7.7	8.5	8.7	6.7
MAX.	8.8 20 DEGR.	8.5 0 DEGR.	8.7 0 DEGR.	8.2 30 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	8.8	20	8.5	0	8.7	0	8.2	30

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 2000 8-HR AM NO-BUILD CAUSEWAY/CANAL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850.
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QA
1. CAUSEWAY N FF	0.	0.	0.	1000.	1000.	360.	AG	1548.	15.0	0.0	28.9	0.00	0
2. CAUSEWAY S FF	0.	0.	0.	-1000.	1000.	180.	AG	1466.	15.0	0.0	28.9	0.00	0
3. CANAL ST FF	0.	0.	1000.	0.	1000.	90.	AG	257.	15.0	0.0	12.1	0.00	0
4. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-152.	152.	180.	BR	6656.	12.5	7.6	24.3	0.00	0
5. RAMPS T/F LEVER/I-93	-179.	0.	-179.	152.	152.	360.	BR	6656.	12.5	7.6	24.3	0.00	0
6. I-93 NB/SB	0.	152.	305.	152.	305.	90.	BR	12419.	8.4	7.6	32.6	0.00	0
7. CANAL ST Q	18.	2.	118.	2.	100.	90.	AG	99.	125.0	0.0	12.1	0.00	0

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SPORTS CAFE	-15.	-6.	1.8
2. T STATION	15.	11.	1.8
3. 125 CAUSEWAY	14.	-12.	1.8
4. FUTURE PORTAL ENTRAN	-23.	0.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#5) RUN: 2000 8-HR AM NO-BUILD CAUSEWAY/CANAL

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	4.0	4.3	4.5	3.6
10.	4.3	4.0	4.1	4.0
20.	4.3	3.7	3.9	4.1
30.	4.3	3.7	3.8	4.1
40.	4.3	3.7	3.9	4.2
50.	4.2	3.7	3.9	4.1
60.	4.2	3.4	3.7	3.9
70.	4.0	3.2	3.5	3.9
80.	3.9	3.3	3.4	3.8
90.	3.9	3.4	3.3	3.7
100.	3.7	3.5	3.2	3.6
110.	3.5	3.5	3.0	3.6
120.	3.6	3.5	3.0	3.4
130.	3.6	3.5	3.1	3.5
140.	3.7	3.4	3.1	3.5
150.	3.8	3.4	3.1	3.6
160.	3.9	3.4	3.2	3.6
170.	4.0	3.6	3.5	3.7
180.	3.8	4.0	3.9	3.5
190.	3.4	4.1	4.0	3.2
200.	3.2	4.0	3.9	3.0
210.	3.1	3.9	3.8	3.0
220.	3.2	3.9	3.7	3.1
230.	3.2	3.9	3.7	3.3
240.	3.3	4.0	3.9	3.4
250.	3.4	3.9	3.8	3.4
260.	3.4	3.9	3.9	3.4
270.	3.4	3.9	3.9	3.4
280.	3.4	3.9	3.9	3.4
290.	3.4	3.9	3.9	3.4
300.	3.4	3.9	3.9	3.4
310.	3.3	3.8	4.0	3.3
320.	3.1	3.7	3.9	3.1
330.	3.0	3.8	4.0	3.0
340.	3.1	4.0	4.1	3.1
350.	3.5	4.2	4.4	3.2
360.	4.0	4.3	4.5	3.6
MAX.	4.3 10 DEGR.	4.3 0 DEGR.	4.5 0 DEGR.	4.2 40 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	4.3	10	4.3	0	4.5	0	4.2	40

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 2000 BUILD 1-HR AM CAUSEWAY/HAVER/ACCOL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAV
1. ACCOLON WAY FF	0.	0.	-1000.	0.	1000.	270.	AG	660.	31.1	0.0	13.6	0.00	0
2. CAUSEWAY ST E FF	0.	0.	0.	1000.	1000.	360.	AG	2096.	31.1	0.0	28.1	0.00	0
3. HAVERHILL ST FF	0.	0.	1000.	0.	1000.	90.	AG	831.	24.8	0.0	13.6	0.00	0
4. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-213.	213.	180.	BR	8710.	24.8	7.6	24.3	0.00	0
5. RAMPS T/F LEVER/I-93	-179.	0.	-179.	91.	91.	360.	BR	8710.	24.8	7.6	24.3	0.00	0
6. I-93 NB/SB	0.	0.	305.	91.	318.	73.	BR	15825.	20.7	7.6	32.6	0.00	0
7. CAUSEWAY ST W FF	0.	0.	0.	-1000.	1000.	180.	AG	2003.	31.1	0.0	28.1	0.00	0
8 ACCOLON WAY Q	-16.	-2.	-157.	-2.	141.	270.	AG	880.	100.0	0.0	9.8	1.37	23

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SHOE REPAIR SHOP	-16.	-14.	1.8
2. GARDEN DELI	-18.	8.	1.8
3. T STATION	14.	-27.	1.8
4. PARK RECEPTOR	-16.	23.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 2000 BUILD 1-HR AM CAUSEWAY/HAVER/ACCOL

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	8.7	7.0	11.1	7.3
10.	9.0	7.5	10.2	7.8
20.	9.0	7.3	9.8	7.5
30.	9.4	7.1	10.0	7.2
40.	10.4	7.1	10.5	7.0
50.	12.1	7.9	11.3	7.0
60.	14.5	10.0	11.2	7.6
70.	15.4	13.2	9.5	9.7
80.	13.3	15.2	7.2	12.2
90.	10.2	14.7	5.7	13.5
100.	7.9	12.8	5.2	12.8
110.	6.9	10.9	5.1	11.7
120.	6.6	9.6	5.1	10.9
130.	6.7	8.8	5.2	10.2
140.	6.9	8.2	5.2	9.6
150.	7.1	8.1	5.3	8.7
160.	7.4	8.5	5.5	8.5
170.	7.6	9.0	6.3	8.5
180.	7.2	9.0	7.5	8.1
190.	6.1	8.4	7.8	7.4
200.	5.5	8.1	7.6	6.8
210.	5.5	8.4	7.3	7.2
220.	5.7	8.9	7.3	7.6
230.	6.0	9.5	7.4	7.9
240.	6.1	9.9	7.4	8.0
250.	6.3	10.1	7.4	7.9
260.	7.0	10.0	7.8	7.5
270.	8.1	8.9	8.5	6.8
280.	8.9	7.5	9.0	6.1
290.	9.2	6.2	8.9	5.6
300.	8.7	5.6	8.8	5.4
310.	8.3	5.4	8.4	5.2
320.	7.7	5.1	8.4	5.1
330.	7.6	5.1	9.2	5.2
340.	7.6	5.3	10.0	5.4
350.	8.0	6.0	10.9	6.2
360.	8.7	7.0	11.1	7.3
MAX.	15.4 70 DEGR.	15.2 80 DEGR.	11.3 50 DEGR.	13.5 90 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	15.4	70	15.2	80	11.3	50	13.5	90

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 2000 BUILD 8-HR AM CAUSE/HAVER/ACCOL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAV
1. ACCOLON WAY FF	0.	0.	-1000.	0.	1000.	270.	AG	521.	15.0	0.0	13.6	0.00	0
2. CAUSEWAY ST E FF	0.	0.	0.	1000.	1000.	360.	AG	1656.	15.0	0.0	28.1	0.00	0
3. HAVERHILL ST FF	0.	0.	1000.	0.	1000.	90.	AG	657.	15.0	0.0	13.6	0.00	0
4. CAUSEWAY ST W FF	0.	0.	0.	-1000.	1000.	180.	AG	1582.	15.0	0.0	28.1	0.00	0
5. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-213.	213.	180.	BR	6881.	12.5	7.6	24.3	0.00	0
6. RAMPS T/F LEVER/I-93	-179.	0.	-179.	91.	91.	360.	BR	6881.	12.5	7.6	24.3	0.00	0
7. I-93 NB/SB	0.	91.	305.	91.	305.	90.	BR	12502.	8.4	7.6	32.6	0.00	0
8. ACCOLON WAY Q	-16.	-2.	-27.	-2.	11.	270.	AG	562.	100.0	0.0	9.8	0.66	1

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SHOE REPAIR SHOP	-16.	-14.	1.8
2. GARDEN DELI	-18.	8.	1.8
3. T STATION	14.	-27.	1.8
4. PARK RECEPTOR	-16.	23.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 2000 BUILD 8-HR AM CAUSE/HAVER/ACCOL

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	4.8	4.0	4.5	4.1
10.	5.1	4.4	4.4	4.5
20.	4.8	4.4	3.9	4.5
30.	4.9	4.5	4.0	4.6
40.	4.6	4.5	4.0	4.6
50.	4.7	4.5	4.0	4.7
60.	4.6	4.5	3.8	4.7
70.	4.4	4.5	3.6	4.6
80.	4.1	4.3	3.3	4.3
90.	4.0	4.1	3.1	4.0
100.	3.7	4.1	3.1	3.8
110.	3.6	4.0	3.0	3.8
120.	3.6	3.9	3.0	3.9
130.	3.6	4.1	3.1	3.7
140.	3.7	4.0	3.1	4.0
150.	3.8	4.1	3.1	4.0
160.	3.9	4.5	3.2	4.2
170.	4.0	4.8	3.5	4.3
180.	3.8	5.0	3.9	4.3
190.	3.4	4.7	4.1	3.9
200.	3.1	4.5	4.0	3.6
210.	3.2	4.5	3.8	3.6
220.	3.2	4.6	3.8	3.6
230.	3.4	4.5	3.9	3.7
240.	3.4	4.3	3.9	3.6
250.	3.4	4.1	4.0	3.6
260.	3.5	3.9	3.9	3.6
270.	3.6	3.8	4.2	3.5
280.	3.7	3.6	4.3	3.4
290.	3.8	3.4	4.2	3.2
300.	3.8	3.2	4.1	3.1
310.	3.9	3.1	4.1	3.0
320.	4.1	3.0	4.0	3.0
330.	4.2	3.0	4.1	3.1
340.	4.3	3.1	4.2	3.2
350.	4.5	3.4	4.5	3.4
360.	4.8	4.0	4.5	4.1
MAX.	5.1 10 DEGR.	5.0 180 DEGR.	4.5 0 DEGR.	4.7 50 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	5.1	10	5.0	180	4.5	0	4.7	50

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 2000 NO-BUILD 1-HR AM CAUSEWY/HAVER/ACCO

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QA
1. ACCOLON WAY FF	0.	0.	-1000.	0.	1000.	270.	AG	242.	31.1	0.0	13.6	0.00	
2. CAUSEWAY ST E FF	0.	0.	0.	1000.	1000.	360.	AG	1726.	31.1	0.0	28.1	0.00	
3. HAVERHILL ST FF	0.	0.	1000.	0.	1000.	90.	AG	816.	24.8	0.0	13.6	0.00	
4. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-213.	213.	180.	BR	8425.	24.8	7.6	24.3	0.00	
5. RAMPS T/F LEVER/I-93	-179.	0.	-179.	91.	91.	360.	BR	8425.	24.8	7.6	24.3	0.00	
6. I-93 NB/SB	0.	0.	305.	91.	318.	73.	BR	15720.	20.7	7.6	32.6	0.00	
7. CAUSEWAY ST W FF	0.	0.	0.	-1000.	1000.	180.	AG	1960.	31.1	0.0	28.1	0.00	
8. ACCOLON WAY Q	-16.	-2.	-26.	-2.	10.	270.	AG	108.	100.0	0.0	9.8	0.17	

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SHOE REPAIR SHOP	-16.	-14.	1.8
2. GARDEN DELI	-18.	8.	1.8
3. T STATION	14.	-27.	1.8
4. PARK RECEPTOR	-16.	23.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 2000 NO-BUILD 1-HR AM CAUSEWY/HAVER/ACCO

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	7.2	6.6	10.7	6.9
10.	7.8	7.1	10.0	7.3
20.	8.0	6.9	9.7	7.1
30.	8.7	6.7	10.0	6.8
40.	9.7	6.8	10.5	6.6
50.	11.8	7.5	11.2	6.7
60.	14.3	9.6	11.2	7.4
70.	14.9	12.7	9.5	9.4
80.	13.3	14.7	7.2	11.9
90.	10.2	14.2	5.7	13.1
100.	7.9	12.1	5.2	12.4
110.	6.9	10.4	5.1	11.4
120.	6.5	9.1	5.1	10.7
130.	6.7	8.1	5.2	9.9
140.	6.8	7.4	5.2	9.2
150.	7.0	7.1	5.3	8.4
160.	7.3	7.4	5.5	8.1
170.	7.6	7.6	6.3	7.8
180.	7.1	7.2	7.4	7.2
190.	6.1	6.3	7.8	6.3
200.	5.5	5.7	7.5	5.6
210.	5.5	5.8	7.3	5.6
220.	5.7	6.2	7.2	6.0
230.	6.0	6.3	7.3	6.2
240.	6.1	6.4	7.4	6.2
250.	6.0	6.4	7.4	6.2
260.	6.1	6.4	7.5	6.1
270.	6.1	6.4	7.6	6.1
280.	6.2	6.1	7.7	6.0
290.	6.0	5.8	7.5	5.6
300.	5.9	5.4	7.4	5.4
310.	5.6	5.2	7.3	5.2
320.	5.4	5.1	7.9	5.1
330.	5.4	5.1	8.7	5.1
340.	5.6	5.3	9.7	5.4
350.	6.3	5.8	10.6	6.0
360.	7.2	6.6	10.7	6.9
MAX.	14.9 70 DEGR.	14.7 80 DEGR.	11.2 50 DEGR.	13.1 90 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	14.9	70	14.7	80	11.2	50	13.1	90

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 2000 NO-BUILD 8-HR AM CAUSE/HAVER/ACCOL

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAV
1. ACCOLON WAY FF	0.	0.	-1000.	0.	1000.	270.	AG	191.	15.0	0.0	13.6	0.00	0
2. CAUSEWAY ST E FF	0.	0.	0.	1000.	1000.	360.	AG	1364.	15.0	0.0	28.1	0.00	0
3. HAVERHILL ST FF	0.	0.	1000.	0.	1000.	90.	AG	645.	15.0	0.0	13.6	0.00	0
4. CAUSEWAY ST W FF	0.	0.	0.	-1000.	1000.	180.	AG	1548.	15.0	0.0	28.1	0.00	0
5. RAMPS T/F LEVER/I-93	-179.	0.	-179.	-213.	213.	180.	BR	6656.	12.5	7.6	24.3	0.00	0
6. RAMPS T/F LEVER/I-93	-179.	0.	-179.	91.	91.	360.	BR	6656.	12.5	7.6	24.3	0.00	0
7. I-93 NB/SB	0.	91.	305.	91.	305.	90.	BR	12419.	8.4	7.6	32.6	0.00	0
8. ACCOLON WAY Q	-16.	-2.	-26.	-2.	10.	270.	AG	55.	100.0	0.0	9.8	0.14	1

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SHOE REPAIR SHOP	-16.	-14.	1.8
2. GARDEN DELI	-18.	8.	1.8
3. T STATION	14.	-27.	1.8
4. PARK RECEPTOR	-16.	23.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#6) RUN: 2000 NO-BUILD 8-HR AM CAUSE/HAVER/ACCOL

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	4.1	3.8	4.4	3.9
10.	4.4	4.1	4.2	4.3
20.	4.4	4.2	3.9	4.4
30.	4.6	4.3	3.9	4.5
40.	4.6	4.4	4.0	4.5
50.	4.6	4.4	4.0	4.6
60.	4.5	4.4	3.8	4.6
70.	4.4	4.4	3.6	4.5
80.	4.1	4.1	3.3	4.2
90.	3.9	3.9	3.1	3.9
100.	3.7	3.9	3.1	3.7
110.	3.6	3.8	3.0	3.7
120.	3.6	3.7	3.0	3.8
130.	3.6	3.8	3.1	3.7
140.	3.7	3.7	3.1	3.7
150.	3.8	3.8	3.1	3.9
160.	3.9	3.9	3.2	3.9
170.	4.0	4.0	3.5	3.9
180.	3.8	3.9	3.9	3.8
190.	3.4	3.5	4.1	3.4
200.	3.1	3.3	4.0	3.1
210.	3.2	3.3	3.8	3.2
220.	3.2	3.5	3.8	3.4
230.	3.3	3.6	3.9	3.5
240.	3.4	3.5	3.9	3.5
250.	3.4	3.5	3.9	3.5
260.	3.3	3.6	3.9	3.5
270.	3.5	3.5	4.0	3.4
280.	3.4	3.5	4.0	3.3
290.	3.4	3.3	4.0	3.2
300.	3.3	3.2	3.9	3.1
310.	3.3	3.1	3.8	3.0
320.	3.2	3.0	3.8	3.0
330.	3.2	3.0	3.9	3.1
340.	3.3	3.1	4.0	3.1
350.	3.5	3.3	4.4	3.4
360.	4.1	3.8	4.4	3.9
MAX.	4.6 30 DEGR.	4.4 40 DEGR.	4.4 0 DEGR.	4.6 50 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	4.6	30	4.4	40	4.4	0	4.6	50

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 2000 BUILD 1-HR PM CAUSE/COMER/END/WASH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAV
1. CAUSEWAY ST FF	0.	3.	-1000.	3.	1000.	270.	AG	1750.	24.8	0.0	22.8	0.00	0
2. WASHINGTON SOUTH FF	0.	0.	-574.	-819.	1000.	215.	AG	1618.	24.8	0.0	21.2	0.00	0
3. ENDICOTT ST FF	8.	0.	-22.	-249.	251.	187.	AG	125.	31.1	0.0	11.2	0.00	0
4. COMMERCIAL ST FF	0.	5.	1000.	5.	1000.	90.	AG	2185.	24.8	0.0	19.0	0.00	0
5. WASHINGTON NORTH FF	0.	0.	174.	985.	1000.	10.	AG	2847.	31.1	0.0	26.9	0.00	0
6. I-93 NB/SB	-171.	0.	-171.	-305.	305.	180.	BR	15165.	20.7	7.6	32.6	0.00	0
7. CAUSEWAY ST Q	-15.	-1.	-58.	-1.	43.	270.	AG	2132.	100.0	0.0	15.1	0.82	7
8. WASHINGT. SB THRU Q	-4.	15.	-1.	29.	14.	11.	AG	1346.	100.0	0.0	11.2	0.26	2
9. WASHINGT. SB RIGHT Q	-8.	16.	113.	672.	668.	11.	AG	673.	100.0	0.0	8.6	1.51	111
10. WASHINGT. SB LEFT Q	0.	15.	145.	798.	796.	11.	AG	673.	100.0	0.0	8.6	1.62	132
11. COMMERCIAL STREET Q	14.	8.	221.	8.	207.	90.	AG	1107.	100.0	0.0	12.1	1.05	34
12. ENDICOTT STREET Q	6.	-13.	4.	-32.	19.	185.	AG	704.	100.0	0.0	8.6	0.41	3
13. WASHINGTON ST NB Q	-4.	-10.	-329.	-474.	567.	215.	AG	1409.	100.0	0.0	11.2	1.51	94

WARNING: THE LENGTH (668. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (14. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (796. m) OF THE QUEUE LINK # 10 IS GREATER THAN THE LENGTH (668. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (567. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (19. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	15.	-6.	1.8
2. TELEPHONE	0.	-21.	1.8
3. DVA CLINIC	-49.	-10.	1.8
4. CAUSEWAY ST.BUILDNG	-19.	14.	1.8
5. NE CORNER PARK	20.	20.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 2000 BUILD 1-HR PM CAUSE/COMER/END/WASH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	14.4	14.8	13.4	7.3	11.3
10.	13.3	15.1	14.3	9.9	10.0
20.	11.0	12.9	15.3	11.7	7.3
30.	9.6	10.9	16.1	12.2	5.7
40.	9.4	10.2	16.3	11.9	5.2
50.	9.7	10.2	16.6	11.8	5.1
60.	10.1	10.2	16.5	11.9	5.2
70.	10.5	10.3	16.4	12.2	5.6
80.	10.5	10.0	15.9	12.8	6.9
90.	9.2	9.0	13.7	13.7	8.9
100.	7.1	8.0	10.6	12.9	10.4
110.	5.7	7.4	8.8	10.8	10.7
120.	5.2	7.3	8.0	9.4	10.3
130.	5.1	7.4	7.8	8.9	9.9
140.	5.1	7.5	7.6	9.1	9.5
150.	5.1	7.3	7.4	10.0	9.3
160.	5.0	7.1	7.3	11.1	9.2
170.	5.1	6.8	7.4	12.2	9.2
180.	5.5	6.4	7.7	13.3	9.7
190.	6.1	6.4	8.2	14.3	10.5
200.	7.6	7.5	8.9	15.3	12.1
210.	10.5	10.7	9.0	15.6	14.2
220.	12.9	13.4	8.1	14.8	15.2
230.	13.2	14.3	7.4	13.6	14.6
240.	12.4	13.5	7.1	12.8	13.7
250.	11.9	12.8	7.2	11.7	13.7
260.	12.1	12.5	7.8	10.2	13.4
270.	12.5	12.9	8.9	8.3	12.6
280.	12.2	13.3	9.4	6.6	11.4
290.	11.1	13.9	9.4	5.6	10.4
300.	10.3	14.0	9.6	5.2	9.7
310.	10.4	13.8	10.2	5.1	9.6
320.	10.9	12.8	10.8	5.1	9.6
330.	11.5	12.0	11.3	5.1	9.9
340.	12.6	12.0	11.8	5.0	10.4
350.	13.7	13.2	12.5	5.5	11.0
360.	14.4	14.8	13.4	7.3	11.3
MAX.	14.4	0 DEGR. 15.1	10 DEGR. 16.6	50 DEGR. 15.6	210 DEGR. 15.2 220 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	14.4	0	15.1	10	16.6	50	15.6	210	15.2	220

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 2000 BUILD 8-HR PM CAUSE/COMER/END/WASH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QA
1. CAUSEWAY ST FF	0.	3.	-1000.	3.	1000.	270.	AG	1383.	12.5	0.0	22.8	0.00	
2. WASHINGTON SOUTH FF	0.	0.	-574.	-819.	1000.	215.	AG	1278.	12.5	0.0	21.2	0.00	
3. ENDICOTT ST FF	8.	0.	-22.	-249.	251.	187.	AG	99.	15.0	0.0	11.2	0.00	
4. COMMERCIAL ST FF	0.	5.	1000.	5.	1000.	90.	AG	1726.	12.5	0.0	19.0	0.00	
5. WASHINGTON NORTH FF	0.	0.	174.	985.	1000.	10.	AG	2249.	12.5	0.0	26.9	0.00	
6. I-93 NB/SB	-171.	0.	-171.	-610.	610.	180.	BR	11980.	8.4	7.6	32.6	0.00	
7. CAUSEWAY ST Q	-15.	-1.	-46.	-1.	31.	270.	AG	1360.	100.0	0.0	15.1	0.65	
8. WASHINGTON N THRU Q	-4.	15.	-2.	26.	11.	11.	AG	859.	100.0	0.0	11.2	0.20	
9. WASHINGTON N RIGHT Q	-8.	16.	46.	312.	301.	11.	AG	429.	100.0	0.0	8.6	1.19	5
10. WASHINGTON N LEFT Q	0.	15.	73.	409.	401.	11.	AG	429.	100.0	0.0	8.6	1.28	6
11. COMMERCIAL ST THRU Q	14.	8.	81.	8.	68.	90.	AG	706.	100.0	0.0	12.1	0.83	1
12. ENDICOTT ST THRU Q	6.	-13.	5.	-28.	15.	185.	AG	449.	100.0	0.0	8.6	0.32	
13. WASHINGTON S THRU Q	-4.	-10.	-151.	-220.	257.	215.	AG	899.	100.0	0.0	11.2	1.19	4

WARNING: THE LENGTH (301. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (11. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (401. m) OF THE QUEUE LINK # 10 IS GREATER THAN THE LENGTH (301. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (257. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (15. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	15.	-6.	1.8
2. TELEPHONE	0.	-21.	1.8
3. DVA CLINIC	-49.	-10.	1.8
4. CAUSEWAY ST.BUILDNG	-19.	14.	1.8
5. NE CORNER PARK	20.	20.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 2000 BUILD 8-HR PM CAUSE/COMER/END/WASH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	7.3	7.6	4.7	4.0	5.7
10.	6.7	7.7	5.8	5.2	4.9
20.	5.9	6.7	6.9	6.3	3.9
30.	5.4	6.0	8.0	6.5	3.3
40.	5.3	5.8	8.4	6.4	3.1
50.	5.5	5.8	8.9	6.3	3.0
60.	5.5	5.9	8.8	6.5	3.0
70.	5.5	5.6	8.8	6.4	3.2
80.	5.2	5.2	8.5	6.8	3.7
90.	4.5	5.1	7.3	6.9	4.4
100.	3.7	4.7	5.8	6.4	5.3
110.	3.2	4.4	4.8	5.4	5.8
120.	3.1	4.3	4.4	4.8	5.8
130.	3.1	4.3	4.3	4.7	5.7
140.	3.0	4.2	4.2	4.9	5.5
150.	3.0	4.0	4.3	5.5	5.4
160.	3.0	3.8	4.3	6.2	5.3
170.	3.0	3.7	4.4	7.0	5.2
180.	3.2	3.5	4.6	7.9	5.5
190.	3.8	3.8	4.9	8.5	6.0
200.	4.6	4.4	5.0	8.9	6.7
210.	5.9	5.8	4.6	8.7	7.8
220.	6.9	7.2	4.0	7.9	7.7
230.	7.3	7.7	3.6	7.2	7.4
240.	6.6	7.4	3.7	6.4	6.9
250.	6.4	7.1	3.7	5.8	6.9
260.	6.3	6.8	3.9	4.9	6.7
270.	6.4	7.0	4.1	4.2	6.3
280.	6.3	7.2	4.0	3.6	5.8
290.	5.7	7.7	3.8	3.2	5.5
300.	5.2	7.9	3.6	3.1	5.2
310.	5.2	7.9	3.6	3.1	5.1
320.	5.5	7.3	3.6	3.0	5.2
330.	6.1	6.8	3.6	3.0	5.2
340.	6.5	6.6	3.6	3.0	5.5
350.	7.1	7.2	3.8	3.3	5.7
360.	7.3	7.6	4.7	4.0	5.7
MAX.	7.3 0 DEGR.	7.9 300 DEGR.	8.9 50 DEGR.	8.9 200 DEGR.	7.8 210 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	7.3	0	7.9	300	8.9	50	8.9	200	7.8	210

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 2000 NO-BLD 1-HR PM CAUSE/COMER/END/WASH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QA
1. CAUSEWAY ST FF	0.	3.	-1000.	3.	1000.	270.	AG	1600.	24.8	0.0	22.8	0.00	
2. WASHINGTON SOUTH FF	0.	0.	-574.	-819.	1000.	215.	AG	1540.	24.8	0.0	21.2	0.00	
3. ENDICOTT ST FF	8.	0.	-22.	-249.	251.	187.	AG	125.	31.1	0.0	11.2	0.00	
4. COMMERCIAL ST FF	0.	5.	1000.	5.	1000.	90.	AG	2185.	24.8	0.0	19.0	0.00	
5. WASHINGTON NORTH FF	0.	0.	174.	985.	1000.	10.	AG	2775.	31.1	0.0	26.9	0.00	
6. I-93 NB/SB	-171.	0.	-171.	-305.	305.	180.	BR	15050.	20.7	7.6	32.6	0.00	
7. CAUSEWAY ST Q	-15.	-1.	-54.	-1.	39.	270.	AG	2132.	100.0	0.0	15.1	0.77	
8. WASHINGT. SB THRU Q	-4.	15.	-1.	29.	14.	11.	AG	1346.	100.0	0.0	11.2	0.26	
9. WASHINGT. SB RIGHT Q	-8.	16.	99.	593.	587.	11.	AG	673.	100.0	0.0	8.6	1.44	9
10. WASHINGT. SB LEFT Q	0.	15.	145.	798.	796.	11.	AG	673.	100.0	0.0	8.6	1.62	13
11. COMMERCIAL STREET Q	14.	8.	221.	8.	207.	90.	AG	1107.	100.0	0.0	12.1	1.05	3
12. ENDICOTT STREET Q	6.	-13.	4.	-32.	19.	185.	AG	704.	100.0	0.0	8.6	0.41	
13. WASHINGTON ST NB Q	-4.	-10.	-256.	-371.	441.	215.	AG	1409.	100.0	0.0	11.2	1.38	7

WARNING: THE LENGTH (587. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (14. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (796. m) OF THE QUEUE LINK # 10 IS GREATER THAN THE LENGTH (587. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (441. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (19. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	15.	-6.	1.8
2. TELEPHONE	0.	-21.	1.8
3. DVA CLINIC	-49.	-10.	1.8
4. CAUSEWAY ST.BUILDNG	-19.	14.	1.8
5. NE CORNER PARK	20.	20.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 2000 NO-BLD 1-HR PM CAUSE/COMER/END/WASH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	14.3	14.7	12.9	7.3	11.2
10.	13.2	15.0	14.0	9.8	9.9
20.	11.0	12.8	15.1	11.7	7.2
30.	9.6	10.9	15.9	12.1	5.7
40.	9.4	10.2	16.2	11.9	5.2
50.	9.7	10.2	16.3	11.8	5.1
60.	10.1	10.2	16.4	11.8	5.2
70.	10.5	10.3	16.3	12.1	5.6
80.	10.5	9.9	15.7	12.8	6.9
90.	9.2	9.0	13.6	13.6	8.9
100.	7.1	8.0	10.4	12.9	10.4
110.	5.7	7.4	8.8	10.7	10.7
120.	5.2	7.3	8.0	9.1	10.3
130.	5.1	7.4	7.8	8.8	9.9
140.	5.1	7.5	7.6	8.9	9.5
150.	5.1	7.3	7.4	9.9	9.3
160.	5.0	7.1	7.3	10.8	9.2
170.	5.1	6.8	7.4	12.1	9.2
180.	5.5	6.4	7.6	13.1	9.5
190.	6.1	6.4	8.1	14.1	10.5
200.	7.6	7.5	8.7	15.1	12.0
210.	10.3	10.6	8.7	15.4	14.1
220.	12.7	13.1	8.0	14.5	15.0
230.	13.1	14.1	7.3	13.4	14.4
240.	12.2	13.4	7.0	12.3	13.5
250.	11.7	12.7	7.1	11.3	13.4
260.	11.7	12.2	7.4	9.7	13.0
270.	12.2	12.6	7.9	8.0	12.3
280.	11.7	13.0	8.1	6.4	11.2
290.	10.9	13.5	8.0	5.4	10.3
300.	10.2	13.8	8.0	5.2	9.7
310.	10.1	13.7	8.4	5.1	9.6
320.	10.7	12.6	8.8	5.1	9.6
330.	11.4	11.9	9.4	5.1	9.9
340.	12.5	12.0	10.2	5.0	10.4
350.	13.5	13.0	11.5	5.5	11.0
360.	14.3	14.7	12.9	7.3	11.2
MAX.	14.3 0 DEGR.	15.0 10 DEGR.	16.4 60 DEGR.	15.4 210 DEGR.	15.0 220 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	14.3	0	15.0	10	16.4	60	15.4	210	15.0	220

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 2000 NO-BLD 8-HR PM CAUSE/COMER/END/WASH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAV
1. CAUSEWAY ST FF	0.	3.	-1000.	3.	1000.	270.	AG	1264.	12.5	0.0	22.8	0.00	0
2. WASHINGTON SOUTH FF	0.	0.	-574.	-819.	1000.	215.	AG	1217.	12.5	0.0	21.2	0.00	0
3. ENDICOTT ST FF	8.	0.	-22.	-249.	251.	187.	AG	99.	15.0	0.0	11.2	0.00	0
4. COMMERCIAL ST FF	0.	5.	1000.	5.	1000.	90.	AG	1726.	12.5	0.0	19.0	0.00	0
5. WASHINGTON NORTH FF	0.	0.	174.	985.	1000.	10.	AG	2192.	12.5	0.0	26.9	0.00	0
6. I-93 NB/SB	-171.	0.	-171.	-305.	305.	180.	BR	11890.	8.4	7.6	32.6	0.00	0
7. CAUSEWAY ST Q	-15.	-1.	-44.	-1.	28.	270.	AG	1360.	100.0	0.0	15.1	0.60	4
8. WASHINGTON N THRU Q	-4.	15.	-2.	26.	11.	11.	AG	859.	100.0	0.0	11.2	0.20	1
9. WASHINGTON N RIGHT Q	-8.	16.	35.	248.	236.	11.	AG	429.	100.0	0.0	8.6	1.14	39
10. WASHINGTON N LEFT Q	0.	15.	73.	409.	401.	11.	AG	429.	100.0	0.0	8.6	1.28	66
11. COMMERCIAL ST THRU Q	14.	8.	81.	8.	68.	90.	AG	706.	100.0	0.0	12.1	0.83	11
12. ENDICOTT ST THRU Q	6.	-13.	5.	-28.	15.	185.	AG	449.	100.0	0.0	8.6	0.32	2
13. WASHINGTON S THRU Q	-4.	-10.	-95.	-141.	160.	215.	AG	899.	100.0	0.0	11.2	1.09	26

WARNING: THE LENGTH (236. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (11. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (401. m) OF THE QUEUE LINK # 10 IS GREATER THAN THE LENGTH (236. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (160. m) OF THE QUEUE LINK # 13 IS GREATER THAN THE LENGTH (15. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	15.	-6.	1.8
2. TELEPHONE	0.	-21.	1.8
3. DVA CLINIC	-49.	-10.	1.8
4. CAUSEWAY ST.BUILDNG	-19.	14.	1.8
5. NE CORNER PARK	20.	20.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#7) RUN: 2000 NO-BLD 8-HR PM CAUSE/COMER/END/WASH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	7.3	7.4	3.9	4.0	5.6
10.	6.6	7.7	4.8	5.2	4.8
20.	5.8	6.7	6.0	6.1	3.9
30.	5.4	6.0	6.9	6.5	3.3
40.	5.3	5.8	7.8	6.4	3.1
50.	5.5	5.7	8.3	6.3	3.0
60.	5.5	5.9	8.3	6.3	3.0
70.	5.5	5.6	8.4	6.4	3.2
80.	5.2	5.2	8.1	6.8	3.7
90.	4.5	5.1	7.1	6.9	4.4
100.	3.7	4.7	5.6	6.4	5.3
110.	3.2	4.4	4.7	5.4	5.8
120.	3.1	4.3	4.4	4.8	5.8
130.	3.1	4.3	4.2	4.7	5.7
140.	3.0	4.2	4.2	4.8	5.5
150.	3.0	4.0	4.3	5.4	5.4
160.	3.0	3.8	4.3	6.1	5.3
170.	3.0	3.7	4.3	6.9	5.2
180.	3.2	3.5	4.4	7.7	5.5
190.	3.6	3.6	4.4	8.1	5.8
200.	4.3	4.0	4.3	8.2	6.3
210.	5.4	5.4	4.1	8.0	7.3
220.	6.6	6.8	3.8	7.5	7.4
230.	7.1	7.5	3.6	6.8	7.2
240.	6.6	7.4	3.7	6.1	6.8
250.	6.3	7.0	3.7	5.5	6.7
260.	6.2	6.8	3.8	4.7	6.6
270.	6.3	6.8	4.0	4.1	6.3
280.	6.1	7.2	3.9	3.5	5.8
290.	5.5	7.6	3.8	3.2	5.5
300.	5.2	7.8	3.6	3.1	5.2
310.	5.2	7.7	3.5	3.1	5.1
320.	5.5	7.2	3.5	3.0	5.1
330.	6.1	6.8	3.4	3.0	5.2
340.	6.5	6.6	3.4	3.0	5.5
350.	7.1	7.2	3.4	3.3	5.6
360.	7.3	7.4	3.9	4.0	5.6
MAX.	7.3 0 DEGR.	7.8 300 DEGR.	8.4 70 DEGR.	8.2 200 DEGR.	7.4 220 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	7.3	0	7.8	300	8.4	70	8.2	200	7.4	220

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 2000 BUILD 1-HR AM CITY SQUARE

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QA
1. N WASHINGTON ST FF	-1.	0.	-1.	-1000.	1000.	180.	AG	2782.	24.8	0.0	27.9	0.00	
2. CHELSEA ST FF	0.	0.	940.	-342.	1000.	110.	AG	2365.	24.8	0.0	20.6	0.00	
3. RUTHERFORD ST FF	0.	0.	0.	1000.	1000.	360.	AG	3631.	24.8	0.0	27.9	0.00	
4. RUTHERFRD RIGHT EXFF	-38.	29.	-11.	51.	35.	51.	AG	905.	24.8	0.0	9.7	0.00	
5. ON RAMP I-93 FF	0.	0.	-766.	643.	1000.	310.	AG	1740.	36.1	0.0	13.3	0.00	
6. OFF RAMP I-93 FF	0.	-11.	996.	76.	1000.	85.	AG	1406.	36.1	0.0	13.3	0.00	
7. OFF RAMP RIGHT FF	-43.	-6.	-10.	-35.	44.	132.	AG	156.	36.1	0.0	12.1	0.00	
8. I-93 N. OF DEPRESSIO	-152.	0.	-152.	305.	305.	360.	BR	10290.	15.5	7.6	32.6	0.00	
9. I-93 N. OF DEPRESSIO	-152.	0.	-152.	-183.	183.	180.	BR	10290.	15.5	7.6	32.6	0.00	
10. N WASHINGTON THRU Q	12.	-18.	12.	-92.	74.	180.	AG	2054.	100.0	0.0	17.0	0.89	1
11. N WASHINGTON LEFT Q	3.	-18.	3.	-20.	1.	180.	AG	1673.	100.0	0.0	13.3	0.07	
12. CHELSEA ST THRU Q	24.	1.	118.	-33.	100.	110.	AG	1272.	100.0	0.0	13.3	0.96	1
13. CHELSEA ST LEFT Q	24.	-6.	73.	-24.	52.	110.	AG	1272.	100.0	0.0	13.3	0.62	
14. RUTHERFORD RIGHT Q	-27.	38.	-27.	102.	64.	360.	AG	269.	100.0	0.0	9.7	0.75	1
15. RUTHERFORD THRU Q	-10.	23.	-10.	40.	17.	360.	AG	675.	100.0	0.0	17.0	0.27	
16. RUTHERFORD LEFT Q	-1.	23.	-1.	57.	34.	360.	AG	1653.	100.0	0.0	13.3	1.03	
17. OFF RAMP RIGHT Q	-27.	-20.	-45.	-14.	19.	287.	AG	494.	100.0	0.0	9.7	0.21	
18. OFF RAMP THRU Q	-23.	-9.	-117.	0.	94.	275.	AG	988.	100.0	0.0	13.3	0.83	1

WARNING: THE LENGTH (100. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (1. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (64. m) OF THE QUEUE LINK # 14 IS GREATER THAN THE LENGTH (52. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (34. m) OF THE QUEUE LINK # 16 IS GREATER THAN THE LENGTH (17. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (94. m) OF THE QUEUE LINK # 18 IS GREATER THAN THE LENGTH (19. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. FREEDOM TRAIL	29.	-39.	1.8
2. CHELSEA/RUTHERFORD	28.	9.	1.8
3. RUTHERFORD/I-93 ON	-29.	43.	1.8
4. I-93 ON/I-93 OFF	-22.	4.	1.8
5. WASHINGTON/I-93 OFF	-30.	-26.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 2000 BUILD 1-HR AM CITY SQUARE

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	10.8	6.6	8.2	10.0	11.1
10.	10.3	5.6	8.8	11.3	11.8
20.	10.1	5.1	8.7	11.8	11.5
30.	10.1	5.0	8.6	11.6	10.4
40.	10.2	5.0	8.4	11.1	9.3
50.	10.1	5.1	8.9	10.1	8.9
60.	10.1	5.2	9.3	9.4	9.7
70.	9.9	5.5	10.1	9.6	11.0
80.	9.0	6.2	10.8	10.9	12.3
90.	7.9	7.3	11.8	12.8	12.2
100.	6.9	9.7	12.4	14.0	11.1
110.	6.0	12.5	13.6	13.6	9.8
120.	5.4	15.1	14.3	11.8	9.2
130.	5.1	16.2	13.9	10.4	8.7
140.	5.0	15.9	13.5	9.8	8.5
150.	5.0	15.3	12.5	9.7	7.8
160.	5.2	14.7	11.7	9.3	7.2
170.	5.7	14.9	11.3	8.9	6.8
180.	7.2	16.1	10.1	8.2	6.1
190.	8.8	16.5	9.6	7.6	5.4
200.	10.3	15.7	9.1	7.8	5.2
210.	11.0	13.7	9.2	8.3	5.3
220.	11.3	11.9	9.2	8.9	5.6
230.	11.5	10.9	9.1	9.1	5.9
240.	11.4	10.3	8.6	9.3	6.0
250.	11.4	10.3	8.2	9.1	5.9
260.	11.4	10.2	7.8	8.7	6.0
270.	11.8	10.0	8.0	7.9	6.6
280.	12.1	9.8	8.1	7.0	7.3
290.	12.7	10.1	8.1	6.5	8.3
300.	13.1	10.7	8.3	7.0	9.5
310.	13.5	10.8	7.9	7.8	10.2
320.	13.4	10.2	7.1	8.6	10.8
330.	12.7	9.0	6.5	8.6	10.8
340.	12.0	8.1	6.4	8.3	10.5
350.	11.4	7.4	7.0	8.8	10.3
360.	10.8	6.6	8.2	10.0	11.1
MAX.	13.5 310 DEGR.	16.5 190 DEGR.	14.3 120 DEGR.	14.0 100 DEGR.	12.3 80 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	13.5	310	16.5	190	14.3	120	14.0	100	12.3	80

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 2000 BUILD 8-HR AM CITY SQUARE

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAV.
1. N WASHINGTON ST FF	-1.	0.	-1.	-1000.	1000.	180.	AG	2202.	12.5	0.0	27.9	0.00	(
2. CHELSEA ST FF	0.	0.	940.	-342.	1000.	110.	AG	1868.	12.5	0.0	20.6	0.00	(
3. RUTHERFORD ST FF	0.	0.	0.	1000.	1000.	360.	AG	2868.	12.5	0.0	27.9	0.00	(
4. RUTHERFRD RIGHT EXFF	-38.	29.	-11.	51.	35.	51.	AG	715.	12.5	0.0	9.7	0.00	(
5. ON RAMP I-93 FF	0.	0.	-766.	643.	1000.	310.	AG	1375.	15.0	0.0	13.3	0.00	(
6. OFF RAMP I-93 FF	0.	-11.	996.	76.	1000.	85.	AG	1111.	15.0	0.0	13.3	0.00	(
7. OFF RAMP RIGHT FF	-43.	-6.	-10.	-35.	44.	132.	AG	123.	15.0	0.0	12.1	0.00	(
8. I-93 N. OF DEPRESSIO	-152.	0.	-152.	305.	305.	360.	BR	8129.	8.4	7.6	32.6	0.00	(
9. I-93 N. OF DEPRESSIO	-152.	0.	-152.	-183.	183.	180.	BR	8129.	8.4	7.6	32.6	0.00	(
10. N WASHINGTON THRU Q	12.	-18.	12.	-70.	52.	180.	AG	1311.	100.0	0.0	17.0	0.71	(
11. N WASHINGTON LEFT Q	3.	-18.	3.	-19.	1.	180.	AG	1067.	100.0	0.0	13.3	0.06	(
12. CHELSEA ST THRU Q	24.	1.	87.	-21.	66.	110.	AG	811.	100.0	0.0	13.3	0.75	1
13. CHELSEA ST LEFT Q	24.	-6.	62.	-20.	40.	110.	AG	811.	100.0	0.0	13.3	0.49	(
14. RUTHERFORD RIGHT Q	-27.	38.	-27.	84.	46.	360.	AG	172.	100.0	0.0	9.7	0.59	(
15. RUTHERFORD THRU Q	-10.	23.	-10.	37.	13.	360.	AG	431.	100.0	0.0	17.0	0.22	(
16. RUTHERFORD LEFT Q	-1.	23.	-1.	39.	16.	360.	AG	1055.	100.0	0.0	13.3	0.75	(
17. OFF RAMP RIGHT Q	-27.	-20.	-41.	-15.	15.	287.	AG	315.	100.0	0.0	9.7	0.16	(
18. OFF RAMP THRU Q	-23.	-9.	-91.	-3.	68.	275.	AG	630.	100.0	0.0	13.3	0.66	1

WARNING: THE LENGTH (66. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (1. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (46. m) OF THE QUEUE LINK # 14 IS GREATER THAN THE LENGTH (40. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (16. m) OF THE QUEUE LINK # 16 IS GREATER THAN THE LENGTH (13. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (68. m) OF THE QUEUE LINK # 18 IS GREATER THAN THE LENGTH (15. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. FREEDOM TRAIL	29.	-39.	1.8
2. CHELSEA/RUTHERFORD	28.	9.	1.8
3. RUTHERFORD/I-93 ON	-29.	43.	1.8
4. I-93 ON/I-93 OFF	-22.	4.	1.8
5. WASHINGTON/I-93 OFF	-30.	-26.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 2000 BUILD 8-HR AM CITY SQUARE

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	5.9	3.6	4.6	5.0	6.3
10.	5.7	3.2	4.8	5.5	6.3
20.	5.7	3.0	4.7	5.5	5.9
30.	5.7	3.0	4.8	5.7	5.4
40.	5.8	3.0	4.5	5.5	4.8
50.	5.6	3.0	4.5	5.1	4.8
60.	5.2	3.1	4.5	4.8	5.2
70.	4.9	3.2	4.5	4.8	5.8
80.	4.3	3.5	4.8	5.3	6.4
90.	3.8	4.0	5.3	6.2	6.3
100.	3.5	5.1	6.1	6.8	5.9
110.	3.4	6.5	6.8	6.7	5.6
120.	3.1	8.1	7.5	6.1	5.1
130.	3.0	8.7	7.4	5.7	4.6
140.	3.0	9.0	7.0	5.2	4.3
150.	3.0	8.6	6.3	5.1	4.0
160.	3.0	8.3	5.9	4.8	3.7
170.	3.3	8.4	5.7	4.6	3.6
180.	3.6	8.7	5.1	4.5	3.4
190.	4.3	9.0	4.9	4.4	3.2
200.	5.0	8.6	4.9	4.7	3.0
210.	5.7	7.3	4.9	4.9	3.1
220.	6.3	6.1	4.9	5.2	3.3
230.	6.6	5.4	4.6	5.3	3.4
240.	6.6	5.5	4.3	5.4	3.4
250.	6.6	5.3	4.2	5.2	3.4
260.	6.6	5.2	4.0	5.0	3.4
270.	6.8	5.0	4.1	4.5	3.6
280.	7.1	4.9	4.1	3.9	4.0
290.	7.2	5.1	4.2	3.7	4.6
300.	7.4	5.5	4.2	3.7	5.2
310.	7.2	5.3	4.1	4.0	5.6
320.	6.9	4.9	3.9	4.2	6.0
330.	6.5	4.4	3.7	4.3	6.0
340.	6.1	4.1	3.7	4.2	5.9
350.	5.9	3.8	4.1	4.4	5.9
360.	5.9	3.6	4.6	5.0	6.3
MAX.	7.4 300 DEGR.	9.0 140 DEGR.	7.5 120 DEGR.	6.8 100 DEGR.	6.4 80 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	7.4	300	9.0	140	7.5	120	6.8	100	6.4	80

CALINE3: CALIFORNIA LINE SOURCE DISPERSION MODEL - [illegible]
MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#8) [120 cycle length] MITIGATION RUN: 2000 BUILD 8-HR AM CITY SQUARE

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. N WASHINGTON ST FF	-1.	0.	-1.	-1000.	1000.	180.	AG	2202.	12.5	0.0	27.9	0.00	0.0
2. CHELSEA ST FF	0.	0.	940.	-342.	1000.	110.	AG	1868.	12.5	0.0	20.6	0.00	0.0
3. RUTHERFORD ST FF	0.	0.	0.	1000.	1000.	360.	AG	2868.	12.5	0.0	27.9	0.00	0.0
4. RUTHERFRD RIGHT EXFF	-38.	29.	-11.	51.	35.	51.	AG	715.	12.5	0.0	9.7	0.00	0.0
5. ON RAMP I-93 FF	0.	0.	-766.	643.	1000.	310.	AG	1375.	15.0	0.0	13.3	0.00	0.0
6. OFF RAMP I-93 FF	0.	-11.	996.	76.	1000.	85.	AG	1111.	15.0	0.0	13.3	0.00	0.0
7. OFF RAMP RIGHT FF	-43.	-6.	-10.	-35.	44.	132.	AG	123.	15.0	0.0	12.1	0.00	0.0
8. I-93 N. OF DEPRESSIO	-152.	0.	-152.	305.	305.	360.	BR	8129.	8.4	7.6	32.6	0.00	0.0
9. I-93 N. OF DEPRESSIO	-152.	0.	-152.	-183.	183.	180.	BR	8129.	8.4	7.6	32.6	0.00	0.0
10. N WASHINGTON THRU Q	12.	-18.	12.	-54.	36.	180.	AG	1306.	100.0	0.0	17.0	0.74	6.0
11. N WASHINGTON LEFT Q	3.	-18.	3.	-19.	1.	180.	AG	1067.	100.0	0.0	13.3	0.07	0.1
12. CHELSEA ST THRU Q	24.	1.	68.	-15.	47.	110.	AG	814.	100.0	0.0	13.3	0.80	7.1
13. CHELSEA ST LEFT Q	24.	-6.	50.	-15.	27.	110.	AG	814.	100.0	0.0	13.3	0.52	4.1
14. RUTHERFORD RIGHT Q	-27.	38.	-27.	69.	32.	360.	AG	173.	100.0	0.0	9.7	0.60	5.1
15. RUTHERFORD THRU Q	-10.	23.	-10.	32.	9.	360.	AG	435.	100.0	0.0	17.0	0.22	1.1
16. RUTHERFORD LEFT Q	-1.	23.	-1.	78.	55.	360.	AG	1058.	100.0	0.0	13.3	1.27	9.1
17. OFF RAMP RIGHT Q	-27.	-20.	-36.	-17.	10.	287.	AG	314.	100.0	0.0	9.7	0.16	1.
18. OFF RAMP THRU Q	-23.	-9.	-69.	-5.	46.	275.	AG	627.	100.0	0.0	13.3	0.67	7.

WARNING: THE LENGTH (47. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (1. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (32. m) OF THE QUEUE LINK # 14 IS GREATER THAN THE LENGTH (27. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (55. m) OF THE QUEUE LINK # 16 IS GREATER THAN THE LENGTH (9. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (46. m) OF THE QUEUE LINK # 18 IS GREATER THAN THE LENGTH (10. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. FREEDOM TRAIL	29.	-39.	1.8
2. CHELSEA/RUTHERFORD	28.	9.	1.8
3. RUTHERFORD/I-93 ON	-29.	43.	1.8
4. I-93 ON/I-93 OFF	-22.	4.	1.8
5. WASHINGTON/I-93 OFF	-30.	-26.	1.8

Mitigation

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	6.1	3.7	4.5	5.2	6.3
10.	5.8	3.2	4.8	6.1	6.7
20.	5.6	3.0	5.0	6.4	6.4
30.	5.5	3.0	5.3	6.3	5.8
40.	5.2	3.0	5.5	5.9	4.9
50.	4.8	3.0	5.8	5.2	4.8
60.	4.4	3.1	6.0	4.8	5.1
70.	4.1	3.2	5.9	4.7	5.6
80.	3.9	3.5	6.2	5.3	6.1
90.	3.6	3.9	6.2	6.0	6.0
100.	3.5	4.8	6.4	6.6	5.6
110.	3.4	6.1	6.8	6.3	5.2
120.	3.1	7.4	7.1	5.8	4.7
130.	3.0	8.1	7.1	5.5	4.1
140.	3.0	8.5	6.6	5.0	3.9
150.	3.0	8.4	6.2	4.8	3.7
160.	3.0	8.3	5.7	4.5	3.6
170.	3.2	8.3	5.5	4.4	3.6
180.	3.4	8.5	5.1	4.4	3.4
190.	3.7	8.6	4.9	4.4	3.2
200.	4.0	8.2	4.7	4.6	3.0
210.	4.4	7.1	4.8	4.8	3.1
220.	4.9	6.1	4.6	5.1	3.3
230.	5.5	5.4	4.4	5.2	3.4
240.	5.9	5.4	4.2	5.2	3.4
250.	6.3	5.2	4.1	5.0	3.4
260.	6.6	4.9	4.0	4.7	3.4
270.	6.7	4.9	4.1	4.2	3.5
280.	6.9	4.8	4.1	3.7	3.6
290.	7.1	4.9	4.2	3.6	4.1
300.	7.2	5.7	4.2	3.7	4.7
310.	7.1	5.7	4.1	4.0	5.1
320.	7.0	5.7	3.9	4.2	5.7
330.	6.7	5.3	3.7	4.2	5.8
340.	6.4	4.9	3.7	4.2	5.8
350.	6.2	4.2	4.0	4.4	5.9
360.	6.1	3.7	4.5	5.2	6.3
MAX.	7.2 300 DEGR.	8.6 190 DEGR.	7.1 120 DEGR.	6.6 100 DEGR.	6.7 10 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	7.2	300	8.6	190	7.1	120	6.6	100	6.7	10

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 2000 NO-BUILD 1-HR AM CITY SQUARE

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. N WASHINGTON ST FF	-1.	0.	-1.	-1000.	1000.	180.	AG	2690.	24.8	0.0	27.9	0.00	0.0
2. CHELSEA ST FF	0.	0.	940.	-342.	1000.	110.	AG	2365.	24.8	0.0	20.6	0.00	0.0
3. RUTHERFORD ST FF	0.	0.	0.	1000.	1000.	360.	AG	3575.	24.8	0.0	27.9	0.00	0.0
4. RUTHERFRD RIGHT EXFF	-38.	29.	-11.	51.	35.	51.	AG	905.	24.8	0.0	9.7	0.00	0.0
5. ON RAMP I-93 FF	0.	0.	-766.	643.	1000.	310.	AG	1740.	36.1	0.0	13.3	0.00	0.0
6. OFF RAMP I-93 FF	0.	-11.	996.	76.	1000.	85.	AG	1370.	36.1	0.0	13.3	0.00	0.0
7. OFF RAMP RIGHT FF	-43.	-6.	-10.	-35.	44.	132.	AG	120.	36.1	0.0	12.1	0.00	0.0
8. I-93 N. OF DEPRESSIO	-152.	0.	-152.	305.	305.	360.	BR	10290.	15.5	7.6	32.6	0.00	0.0
9. I-93 N. OF DEPRESSIO	-152.	0.	-152.	-183.	183.	180.	BR	10290.	15.5	7.6	32.6	0.00	0.0
10. N WASHINGTON THRU Q	12.	-18.	12.	-92.	74.	180.	AG	2054.	100.0	0.0	17.0	0.89	12.3
11. N WASHINGTON LEFT Q	3.	-18.	3.	-20.	1.	180.	AG	1673.	100.0	0.0	13.3	0.07	0.2
12. CHELSEA ST THRU Q	24.	1.	118.	-33.	100.	110.	AG	1272.	100.0	0.0	13.3	0.96	16.7
13. CHELSEA ST LEFT Q	24.	-6.	73.	-24.	52.	110.	AG	1272.	100.0	0.0	13.3	0.62	8.7
14. RUTHERFORD RIGHT Q	-27.	38.	-27.	102.	64.	360.	AG	269.	100.0	0.0	9.7	0.75	10.7
15. RUTHERFORD THRU Q	-10.	23.	-10.	39.	16.	360.	AG	675.	100.0	0.0	17.0	0.26	2.7
16. RUTHERFORD LEFT Q	-1.	23.	-1.	57.	34.	360.	AG	1653.	100.0	0.0	13.3	1.03	5.6
17. OFF RAMP RIGHT Q	-27.	-20.	-41.	-15.	15.	287.	AG	494.	100.0	0.0	9.7	0.16	2.5
18. OFF RAMP THRU Q	-23.	-9.	-117.	0.	94.	275.	AG	988.	100.0	0.0	13.3	0.83	15.6

WARNING: THE LENGTH (100. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (1. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (64. m) OF THE QUEUE LINK # 14 IS GREATER THAN THE LENGTH (52. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (34. m) OF THE QUEUE LINK # 16 IS GREATER THAN THE LENGTH (16. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (94. m) OF THE QUEUE LINK # 18 IS GREATER THAN THE LENGTH (15. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. FREEDOM TRAIL	29.	-39.	1.8
2. CHELSEA/RUTHERFORD	28.	9.	1.8
3. RUTHERFORD/I-93 ON	-29.	43.	1.8
4. I-93 ON/I-93 OFF	-22.	4.	1.8
5. WASHINGTON/I-93 OFF	-30.	-26.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 2000 NO-BUILD 1-HR AM CITY SQUARE

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	10.8	6.6	8.2	9.9	11.1
10.	10.3	5.6	8.8	11.3	11.6
20.	10.1	5.1	8.6	11.7	11.2
30.	10.1	5.0	8.6	11.6	10.3
40.	10.2	5.0	8.4	11.1	9.2
50.	10.1	5.1	8.8	10.1	8.7
60.	10.1	5.2	9.3	9.4	9.5
70.	9.8	5.4	10.1	9.5	10.8
80.	9.0	6.2	10.7	10.9	12.2
90.	7.9	7.3	11.7	12.7	12.1
100.	6.9	9.6	12.4	13.9	11.1
110.	6.0	12.5	13.6	13.6	9.8
120.	5.4	15.1	14.1	11.8	9.0
130.	5.1	16.1	13.8	10.4	8.6
140.	5.0	15.8	13.2	9.8	8.3
150.	5.0	15.2	12.4	9.7	7.7
160.	5.2	14.6	11.7	9.1	7.1
170.	5.7	14.9	11.2	8.8	6.7
180.	7.1	16.1	10.0	8.2	6.1
190.	8.8	16.4	9.4	7.6	5.4
200.	10.2	15.7	9.1	7.8	5.2
210.	11.0	13.7	9.1	8.2	5.3
220.	11.3	11.7	9.2	8.7	5.6
230.	11.4	10.9	9.1	9.0	5.9
240.	11.4	10.2	8.6	9.1	6.0
250.	11.3	10.2	8.2	9.1	5.9
260.	11.3	10.2	7.8	8.7	6.0
270.	11.7	9.9	8.0	7.9	6.6
280.	12.0	9.8	8.1	7.0	7.2
290.	12.5	10.1	8.1	6.5	8.2
300.	13.1	10.7	8.3	7.0	9.2
310.	13.4	10.7	7.9	7.8	10.0
320.	13.4	10.1	7.1	8.6	10.5
330.	12.6	9.0	6.5	8.6	10.5
340.	12.0	8.0	6.4	8.3	10.4
350.	11.4	7.4	7.0	8.7	10.2
360.	10.8	6.6	8.2	9.9	11.1
MAX.	13.4 310 DEGR.	16.4 190 DEGR.	14.1 120 DEGR.	13.9 100 DEGR.	12.2 80 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	13.4	310	16.4	190	14.1	120	13.9	100	12.2	80

MODIFIED AT PARSONS BRINCKERHOFF,QUADE & DOUGLAS, INC.

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 2000 NO-BUILD 8-HR AM CITY SQUARE

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. N WASHINGTON ST FF	-1.	0.	-1.	-1000.	1000.	180.	AG	2125.	12.5	0.0	27.9	0.00	0.0
2. CHELSEA ST FF	0.	0.	940.	-342.	1000.	110.	AG	1868.	12.5	0.0	20.6	0.00	0.0
3. RUTHERFORD ST FF	0.	0.	0.	1000.	1000.	360.	AG	2824.	12.5	0.0	27.9	0.00	0.0
4. RUTHERFRD RIGHT EXFF	-38.	29.	-11.	51.	35.	51.	AG	715.	12.5	0.0	9.7	0.00	0.0
5. ON RAMP I-93 FF	0.	0.	-766.	643.	1000.	310.	AG	1375.	15.0	0.0	13.3	0.00	0.0
6. OFF RAMP I-93 FF	0.	-11.	996.	76.	1000.	85.	AG	1082.	15.0	0.0	13.3	0.00	0.0
7. OFF RAMP RIGHT FF	-43.	-6.	-10.	-35.	44.	132.	AG	95.	15.0	0.0	12.1	0.00	0.0
8. I-93 N. OF DEPRESSIO	-152.	0.	-152.	305.	305.	360.	BR	8129.	8.4	7.6	32.6	0.00	0.0
9. I-93 N. OF DEPRESSIO	-152.	0.	-152.	-183.	183.	180.	BR	8129.	8.4	7.6	32.6	0.00	0.0
10. N WASHINGTON THRU Q	12.	-18.	12.	-70.	52.	180.	AG	1311.	100.0	0.0	17.0	0.71	8.7
11. N WASHINGTON LEFT Q	3.	-18.	3.	-19.	1.	180.	AG	1067.	100.0	0.0	13.3	0.06	0.2
12. CHELSEA ST THRU Q	24.	1.	87.	-21.	66.	110.	AG	811.	100.0	0.0	13.3	0.75	11.1
13. CHELSEA ST LEFT Q	24.	-6.	62.	-20.	40.	110.	AG	811.	100.0	0.0	13.3	0.49	6.7
14. RUTHERFORD RIGHT Q	-27.	38.	-27.	84.	46.	360.	AG	172.	100.0	0.0	9.7	0.59	7.7
15. RUTHERFORD THRU Q	-10.	23.	-10.	36.	13.	360.	AG	431.	100.0	0.0	17.0	0.21	2.1
16. RUTHERFORD LEFT Q	-1.	23.	-1.	39.	16.	360.	AG	1055.	100.0	0.0	13.3	0.75	2.7
17. OFF RAMP RIGHT Q	-27.	-20.	-38.	-16.	12.	287.	AG	315.	100.0	0.0	9.7	0.12	1.9
18. OFF RAMP THRU Q	-23.	-9.	-91.	-3.	68.	275.	AG	630.	100.0	0.0	13.3	0.66	11.3

WARNING: THE LENGTH (66. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (1. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (46. m) OF THE QUEUE LINK # 14 IS GREATER THAN THE LENGTH (40. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (16. m) OF THE QUEUE LINK # 16 IS GREATER THAN THE LENGTH (13. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (68. m) OF THE QUEUE LINK # 18 IS GREATER THAN THE LENGTH (12. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. FREEDOM TRAIL	29.	-39.	1.8
2. CHELSEA/RUTHERFORD	28.	9.	1.8
3. RUTHERFORD/I-93 ON	-29.	43.	1.8
4. I-93 ON/I-93 OFF	-22.	4.	1.8
5. WASHINGTON/I-93 OFF	-30.	-26.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#8) RUN: 2000 NO-BUILD 8-HR AM CITY SQUARE

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	5.9	3.6	4.6	5.0	6.1
10.	5.7	3.2	4.8	5.5	6.2
20.	5.7	3.0	4.7	5.4	5.7
30.	5.7	3.0	4.8	5.6	5.3
40.	5.7	3.0	4.5	5.5	4.7
50.	5.6	3.0	4.5	5.1	4.7
60.	5.2	3.1	4.5	4.7	5.1
70.	4.9	3.2	4.5	4.8	5.7
80.	4.3	3.5	4.8	5.3	6.2
90.	3.8	4.0	5.3	6.2	6.3
100.	3.5	5.1	6.1	6.8	5.9
110.	3.4	6.5	6.8	6.7	5.5
120.	3.1	8.1	7.5	6.1	5.0
130.	3.0	8.7	7.3	5.6	4.6
140.	3.0	8.9	6.9	5.2	4.2
150.	3.0	8.6	6.3	5.1	4.0
160.	3.0	8.3	5.9	4.8	3.7
170.	3.3	8.4	5.7	4.6	3.6
180.	3.6	8.7	5.1	4.4	3.4
190.	4.3	9.0	4.9	4.4	3.2
200.	5.0	8.6	4.8	4.7	3.0
210.	5.7	7.2	4.9	4.9	3.1
220.	6.3	6.1	4.9	5.1	3.3
230.	6.6	5.4	4.6	5.2	3.4
240.	6.6	5.5	4.3	5.4	3.4
250.	6.6	5.3	4.2	5.2	3.4
260.	6.5	5.1	4.0	5.0	3.4
270.	6.8	5.0	4.1	4.5	3.6
280.	7.0	4.9	4.1	3.9	4.0
290.	7.1	5.1	4.2	3.7	4.5
300.	7.3	5.5	4.2	3.7	5.1
310.	7.2	5.3	4.1	4.0	5.4
320.	6.9	4.9	3.9	4.2	5.8
330.	6.5	4.4	3.7	4.3	5.8
340.	6.0	4.0	3.7	4.2	5.8
350.	5.8	3.8	4.1	4.4	5.9
360.	5.9	3.6	4.6	5.0	6.1
MAX.	7.3 300 DEGR.	9.0 190 DEGR.	7.5 120 DEGR.	6.8 100 DEGR.	6.3 90 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	7.3	300	9.0	190	7.5	120	6.8	100	6.3	90

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 2000 BUILD 1-HR PM STAN/CAMBRDG/TEMP

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAMBRIDGE ST EB FF	0.	0.	-1000.	0.	1000.	270.	AG	3237.	31.1	0.0	26.6	0.00	0.0
2. STANIFORD ST SB FF	1.	0.	1.	1000.	1000.	360.	AG	2067.	31.1	0.0	24.3	0.00	0.0
3. CAMBRIDGE ST WB FF	0.	0.	1000.	0.	1000.	90.	AG	2510.	31.1	0.0	26.6	0.00	0.0
4. TEMPLE ST FF	7.	0.	7.	-1000.	1000.	180.	AG	180.	31.1	0.0	9.1	0.00	0.0
5. CAMBRIDGE EB THRU Q	-12.	-6.	-31.	-6.	18.	270.	AG	458.	100.0	0.0	10.9	0.50	3.1
6. CAMBRIDGE EB LEFT Q	-12.	-2.	-234.	-2.	221.	270.	AG	616.	100.0	0.0	8.4	1.10	36.9
7. STANIFORD SB THRU Q	-3.	14.	-3.	555.	541.	360.	AG	1303.	100.0	0.0	12.1	1.38	90.2
8. CAMBRIDGE WB RIGHT Q	13.	5.	22.	5.	9.	90.	AG	229.	100.0	0.0	9.1	0.27	1.6
9. CAMBRIDGE WB THRU Q	13.	2.	63.	2.	50.	90.	AG	493.	100.0	0.0	9.1	0.81	8.4
10. TEMPLE ST NB THRU Q	7.	-11.	7.	-29.	18.	180.	AG	651.	100.0	0.0	9.1	0.44	3.1

WARNING: THE LENGTH (221. m) OF THE QUEUE LINK # 6 IS GREATER THAN THE LENGTH (18. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (541. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (221. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (50. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (9. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	-10.	-14.	1.8
2. CHURCH	-27.	29.	1.8
3. PLAYGROUND	-12.	31.	1.8
4. BUILDING	25.	28.	1.8
5. STORE	13.	-14.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 2000 BUILD 1-HR PM STAN/CAMBRDG/TEMP

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	14.2	7.7	12.2	7.6	12.5
10.	13.8	9.1	13.9	6.0	10.1
20.	11.7	9.2	13.4	5.2	8.7
30.	10.1	8.9	12.5	5.0	8.2
40.	9.3	8.6	11.7	5.0	8.2
50.	9.4	8.4	11.0	5.0	8.5
60.	9.5	8.3	10.6	5.0	8.7
70.	9.8	8.2	10.5	5.1	8.9
80.	10.1	8.7	10.8	5.5	9.0
90.	9.5	9.5	11.9	6.3	8.2
100.	7.9	9.9	12.3	6.8	6.7
110.	6.7	9.9	12.3	7.0	5.7
120.	6.1	9.4	12.5	7.0	5.3
130.	5.8	8.8	12.4	7.1	5.2
140.	5.6	8.3	12.3	7.1	5.3
150.	5.3	8.0	11.7	7.1	5.2
160.	5.2	7.8	11.1	7.0	5.2
170.	5.1	7.9	10.1	7.2	5.5
180.	5.1	7.9	9.0	7.3	6.1
190.	5.0	7.6	8.2	7.4	6.6
200.	5.1	7.6	8.0	7.7	7.0
210.	5.2	7.6	7.9	8.0	7.2
220.	5.3	7.7	7.9	8.1	7.3
230.	5.3	7.8	7.8	8.9	7.4
240.	5.4	8.0	7.9	9.8	7.4
250.	6.0	8.1	8.0	10.6	8.0
260.	8.0	7.9	7.7	10.7	9.8
270.	10.7	6.9	6.8	10.0	12.1
280.	12.1	5.7	5.7	8.8	13.0
290.	12.0	5.1	5.1	8.1	12.2
300.	11.5	5.0	5.1	8.2	11.1
310.	10.9	5.0	5.1	8.2	10.5
320.	10.4	5.0	5.3	8.5	10.4
330.	10.1	5.0	5.5	8.7	11.0
340.	10.6	5.2	6.5	9.0	12.0
350.	12.3	6.1	8.9	8.8	13.2
360.	14.2	7.7	12.2	7.6	12.5
MAX.	14.2 0 DEGR.	9.9 100 DEGR.	13.9 10 DEGR.	10.7 260 DEGR.	13.2 350 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	14.2	0	9.9	100	13.9	10	10.7	260	13.2	350

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 2000 BUILD 8-HR PM STAN/CAMBRDG/TEMP

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAMBRIDGE ST EB FF	0.	0.	-1000.	0.	1000.	270.	AG	2557.	15.0	0.0	26.6	0.00	0.0
2. STANIFORD ST SB FF	1.	0.	1.	1000.	1000.	360.	AG	1633.	15.0	0.0	24.3	0.00	0.0
3. CAMBRIDGE ST WB FF	0.	0.	1000.	0.	1000.	90.	AG	1983.	15.0	0.0	26.6	0.00	0.0
4. TEMPLE ST FF	7.	0.	7.	-1000.	1000.	180.	AG	142.	18.8	0.0	9.1	0.00	0.0
5. CAMBRIDGE EB THRU Q	-12.	-6.	-26.	-6.	14.	270.	AG	292.	100.0	0.0	10.9	0.40	2.3
6. CAMBRIDGE EB LEFT Q	-12.	-2.	-61.	-2.	48.	270.	AG	393.	100.0	0.0	8.4	0.87	8.1
7. STANIFORD SB THRU Q	-3.	14.	-3.	191.	177.	360.	AG	831.	100.0	0.0	12.1	1.09	29.5
8. CAMBRIDGE WB RIGHT Q	13.	5.	20.	5.	7.	90.	AG	146.	100.0	0.0	9.1	0.22	1.2
9. CAMBRIDGE WB THRU Q	13.	2.	48.	2.	35.	90.	AG	315.	100.0	0.0	9.1	0.64	5.9
10. TEMPLE ST NB THRU Q	7.	-11.	7.	-25.	14.	180.	AG	416.	100.0	0.0	9.1	0.35	2.4

WARNING: THE LENGTH (48. m) OF THE QUEUE LINK # 6 IS GREATER THAN THE LENGTH (14. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (177. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (48. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (35. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (7. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	-10.	-14.	1.8
2. CHURCH	-27.	29.	1.8
3. PLAYGROUND	-12.	31.	1.8
4. BUILDING	25.	28.	1.8
5. STORE	13.	-14.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 2000 BUILD 8-HR PM STAN/CAMBRDG/TEMP

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	7.1	4.0	6.4	3.9	6.1
10.	7.0	4.7	7.5	3.3	6.3
20.	5.9	5.1	7.5	3.0	5.7
30.	5.1	5.0	7.1	3.0	4.4
40.	4.8	5.0	6.7	3.0	4.5
50.	4.8	4.8	6.3	3.0	4.5
60.	4.7	4.7	6.2	3.0	4.6
70.	5.0	4.7	6.0	3.0	4.5
80.	5.2	4.9	6.2	3.2	4.5
90.	4.8	5.2	6.5	3.5	4.3
100.	4.3	5.4	6.6	3.7	3.6
110.	3.8	5.3	6.7	3.7	3.2
120.	3.5	5.0	6.8	3.7	3.1
130.	3.4	4.5	6.9	3.8	3.1
140.	3.3	4.5	6.8	3.9	3.1
150.	3.2	4.3	6.4	3.8	3.0
160.	3.1	4.3	5.8	3.9	3.1
170.	3.1	4.2	5.5	3.9	3.3
180.	3.1	4.2	4.9	4.0	3.4
190.	3.0	4.3	4.5	4.2	3.7
200.	3.0	4.1	4.3	4.3	3.9
210.	3.1	4.1	4.3	4.2	4.1
220.	3.1	4.0	4.2	4.4	4.3
230.	3.1	4.0	4.1	4.7	4.3
240.	3.2	3.9	4.0	5.1	4.4
250.	3.4	3.9	3.9	5.5	4.6
260.	4.1	3.9	3.8	5.6	5.4
270.	5.1	3.6	3.6	5.3	6.1
280.	5.8	3.2	3.2	5.0	6.6
290.	5.9	3.0	3.0	4.6	6.3
300.	5.9	3.0	3.0	4.7	5.8
310.	5.8	3.0	3.1	4.7	5.6
320.	5.6	3.0	3.1	4.8	5.5
330.	5.5	3.0	3.2	5.0	5.8
340.	5.7	3.0	3.6	4.9	6.4
350.	6.3	3.4	4.7	4.5	6.8
360.	7.1	4.0	6.4	3.9	6.1
MAX.	7.1 0 DEGR.	5.4 100 DEGR.	7.5 10 DEGR.	5.6 260 DEGR.	6.8 350 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	7.1	0	5.4	100	7.5	10	5.6	260	6.8	350

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 2000 NO-BUILD 1-HR PM STAN/CAMBRDG/TEMP

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAMBRIDGE ST EB FF	0.	0.	-1000.	0.	1000.	270.	AG	3237.	31.1	0.0	26.6	0.00	0.0
2. STANIFORD ST SB FF	1.	0.	1.	1000.	1000.	360.	AG	2067.	31.1	0.0	24.3	0.00	0.0
3. CAMBRIDGE ST WB FF	0.	0.	1000.	0.	1000.	90.	AG	2510.	31.1	0.0	26.6	0.00	0.0
4. TEMPLE ST FF	7.	0.	7.	-1000.	1000.	180.	AG	180.	31.1	0.0	9.1	0.00	0.0
5. CAMBRIDGE EB THRU Q	-12.	-6.	-31.	-6.	18.	270.	AG	458.	100.0	0.0	10.9	0.50	3.1
6. CAMBRIDGE EB LEFT Q	-12.	-2.	-234.	-2.	221.	270.	AG	616.	100.0	0.0	8.4	1.10	36.9
7. STANIFORD SB THRU Q	-3.	14.	-3.	555.	541.	360.	AG	1303.	100.0	0.0	12.1	1.38	90.2
8. CAMBRIDGE WB RIGHT Q	13.	5.	22.	5.	9.	90.	AG	229.	100.0	0.0	9.1	0.27	1.6
9. CAMBRIDGE WB THRU Q	13.	2.	63.	2.	50.	90.	AG	493.	100.0	0.0	9.1	0.81	8.4
10. TEMPLE ST NB THRU Q	7.	-11.	7.	-29.	18.	180.	AG	651.	100.0	0.0	9.1	0.44	3.1

WARNING: THE LENGTH (221. m) OF THE QUEUE LINK # 6 IS GREATER THAN THE LENGTH (18. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (541. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (221. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (50. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (9. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	-10.	-14.	1.8
2. CHURCH	-27.	29.	1.8
3. PLAYGROUND	-12.	31.	1.8
4. BUILDING	25.	28.	1.8
5. STORE	13.	-14.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 2000 NO-BUILD 1-HR PM STAN/CAMBRDG/TEMP

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	14.2	7.7	12.2	7.6	12.5
10.	13.8	9.1	13.9	6.0	10.1
20.	11.7	9.2	13.4	5.2	8.7
30.	10.1	8.9	12.5	5.0	8.2
40.	9.3	8.6	11.7	5.0	8.2
50.	9.4	8.4	11.0	5.0	8.5
60.	9.5	8.3	10.6	5.0	8.7
70.	9.8	8.2	10.5	5.1	8.9
80.	10.1	8.7	10.8	5.5	9.0
90.	9.5	9.5	11.9	6.3	8.2
100.	7.9	9.9	12.3	6.8	6.7
110.	6.7	9.9	12.3	7.0	5.7
120.	6.1	9.4	12.5	7.0	5.3
130.	5.8	8.8	12.4	7.1	5.2
140.	5.6	8.3	12.3	7.1	5.3
150.	5.3	8.0	11.7	7.1	5.2
160.	5.2	7.8	11.1	7.0	5.2
170.	5.1	7.9	10.1	7.2	5.5
180.	5.1	7.9	9.0	7.3	6.1
190.	5.0	7.6	8.2	7.4	6.6
200.	5.1	7.6	8.0	7.7	7.0
210.	5.2	7.6	7.9	8.0	7.2
220.	5.3	7.7	7.9	8.1	7.3
230.	5.3	7.8	7.8	8.9	7.4
240.	5.4	8.0	7.9	9.8	7.4
250.	6.0	8.1	8.0	10.6	8.0
260.	8.0	7.9	7.7	10.7	9.8
270.	10.7	6.9	6.8	10.0	12.1
280.	12.1	5.7	5.7	8.8	13.0
290.	12.0	5.1	5.1	8.1	12.2
300.	11.5	5.0	5.1	8.2	11.1
310.	10.9	5.0	5.1	8.2	10.5
320.	10.4	5.0	5.3	8.5	10.4
330.	10.1	5.0	5.5	8.7	11.0
340.	10.6	5.2	6.5	9.0	12.0
350.	12.3	6.1	8.9	8.8	13.2
360.	14.2	7.7	12.2	7.6	12.5
MAX.	14.2 0 DEGR.	9.9 100 DEGR.	13.9 10 DEGR.	10.7 260 DEGR.	13.2 350 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	14.2	0	9.9	100	13.9	10	10.7	260	13.2	350

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 2000 NO-BUILD 8-HR PM STAN/CAMBRDG/TEMP

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAMBRIDGE ST EB FF	0.	0.	-1000.	0.	1000.	270.	AG	2557.	15.0	0.0	26.6	0.00	0.0
2. STANIFORD ST SB FF	1.	0.	1.	1000.	1000.	360.	AG	1633.	15.0	0.0	24.3	0.00	0.0
3. CAMBRIDGE ST WB FF	0.	0.	1000.	0.	1000.	90.	AG	1983.	15.0	0.0	26.6	0.00	0.0
4. TEMPLE ST FF	7.	0.	7.	-1000.	1000.	180.	AG	142.	18.8	0.0	9.1	0.00	0.0
5. CAMBRIDGE EB THRU Q	-12.	-6.	-26.	-6.	14.	270.	AG	292.	100.0	0.0	10.9	0.40	2.3
6. CAMBRIDGE EB LEFT Q	-12.	-2.	-61.	-2.	48.	270.	AG	393.	100.0	0.0	9.1	0.87	8.1
7. STANIFORD SB THRU Q	-3.	14.	-3.	191.	177.	360.	AG	831.	100.0	0.0	12.1	1.09	29.5
8. CAMBRIDGE WB RIGHT Q	13.	5.	20.	5.	7.	90.	AG	146.	100.0	0.0	9.1	0.22	1.2
9. CAMBRIDGE WB THRU Q	13.	2.	48.	2.	35.	90.	AG	315.	100.0	0.0	9.1	0.64	5.9
10. TEMPLE ST NB THRU Q	7.	-11.	7.	-25.	14.	180.	AG	416.	100.0	0.0	9.1	0.35	2.4

WARNING: THE LENGTH (48. m) OF THE QUEUE LINK # 6 IS GREATER THAN THE LENGTH (14. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (177. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (48. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (35. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (7. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. RESTAURANT	-10.	-14.	1.8
2. CHURCH	-27.	29.	1.8
3. PLAYGROUND	-12.	31.	1.8
4. BUILDING	25.	28.	1.8
5. STORE	13.	-14.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#9) RUN: 2000 NO-BUILD 8-HR PM STAN/CAMBRDG/TEMP

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	7.1	4.0	6.4	3.9	6.1
10.	7.0	4.7	7.5	3.3	5.3
20.	5.9	5.1	7.5	3.0	4.7
30.	5.1	5.0	7.1	3.0	4.4
40.	4.8	5.0	6.7	3.0	4.5
50.	4.8	4.8	6.3	3.0	4.5
60.	4.7	4.7	6.2	3.0	4.6
70.	5.0	4.7	6.0	3.0	4.5
80.	5.2	4.9	6.2	3.2	4.5
90.	4.8	5.2	6.5	3.5	4.3
100.	4.3	5.4	6.6	3.7	3.6
110.	3.8	5.3	6.7	3.7	3.2
120.	3.5	5.0	6.8	3.7	3.1
130.	3.4	4.5	6.9	3.8	3.1
140.	3.3	4.5	6.8	3.9	3.1
150.	3.2	4.3	6.4	3.8	3.0
160.	3.1	4.3	5.8	3.9	3.1
170.	3.1	4.2	5.5	3.9	3.3
180.	3.1	4.3	4.9	4.0	3.4
190.	3.0	4.3	4.5	4.2	3.7
200.	3.0	4.2	4.3	4.3	3.9
210.	3.1	4.1	4.3	4.2	4.1
220.	3.1	4.1	4.2	4.4	4.3
230.	3.1	4.0	4.1	4.7	4.3
240.	3.2	3.9	4.0	5.1	4.4
250.	3.4	3.9	3.9	5.5	4.6
260.	4.1	3.9	3.8	5.6	5.4
270.	5.1	3.6	3.6	5.3	6.1
280.	5.8	3.2	3.2	5.0	6.6
290.	6.0	3.0	3.0	4.6	6.3
300.	6.0	3.0	3.0	4.7	5.8
310.	5.8	3.0	3.1	4.7	5.6
320.	5.6	3.0	3.1	4.8	5.5
330.	5.5	3.0	3.2	5.0	5.8
340.	5.7	3.0	3.6	4.9	6.4
350.	6.3	3.4	4.7	4.5	6.8
360.	7.1	4.0	6.4	3.9	6.1
MAX.	7.1 0 DEGR.	5.4 100 DEGR.	7.5 10 DEGR.	5.6 260 DEGR.	6.8 350 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	7.1	0	5.4	100	7.5	10	5.6	260	6.8	350

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 2000 BUILD 1-HR PM CAMBRDG/BOWD/NEWCH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAMBRIDGE ST W FF	0.	0.	-1000.	0.	1000.	270.	AG	2510.	31.1	0.0	28.1	0.00	0.0
2. NEW CHARDON ST FF	0.	0.	0.	1000.	1000.	360.	AG	860.	24.8	0.0	21.2	0.00	0.0
3. CAMBRIDGE ST E FF	0.	0.	1000.	0.	1000.	90.	AG	2595.	31.1	0.0	28.9	0.00	0.0
4. BOWDOIN ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1195.	49.9	0.0	22.8	0.00	0.0
5. CAMBRIDGE ST W Q	-14.	-5.	-51.	-5.	36.	270.	AG	1347.	100.0	0.0	15.1	0.65	6.0
6. NEW CHARDON RIGHT Q	-3.	15.	-3.	29.	13.	360.	AG	431.	100.0	0.0	9.1	0.27	2.2
7. NEW CHARDON THRU Q	2.	15.	2.	51.	35.	360.	AG	1285.	100.0	0.0	12.1	0.76	5.9
8. CAMBRIDGE ST E Q	16.	5.	35.	5.	19.	90.	AG	1320.	100.0	0.0	12.1	0.47	3.1
9. BOWDOIN ST Q	3.	-15.	3.	41.	56.	360.	AG	1285.	100.0	0.0	12.1	0.95	9.4

WARNING: THE LENGTH (35. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (13. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (56. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (19. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SUB SHOP	-13.	-14.	1.8
2. BENCH	-12.	30.	1.8
3. COURTYARD BENCH	14.	27.	1.8
4. TELEPHONES	19.	-19.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 2000 BUILD 1-HR PM CAMBRDG/BOWD/NEWCH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	11.1	5.9	6.3	10.0
10.	12.0	6.4	5.5	9.0
20.	12.4	6.9	5.1	8.4
30.	12.9	7.8	5.0	8.1
40.	13.0	8.8	5.0	7.8
50.	12.6	9.6	5.0	7.6
60.	12.9	10.2	5.0	7.5
70.	13.1	10.9	5.1	7.8
80.	12.9	11.7	5.6	7.9
90.	11.6	12.9	6.4	7.2
100.	9.3	13.7	7.0	6.0
110.	7.7	14.1	7.2	5.3
120.	7.0	14.3	7.4	5.1
130.	6.8	13.8	7.8	5.1
140.	6.9	13.3	8.0	5.0
150.	7.2	12.4	8.3	5.0
160.	7.5	11.5	8.5	5.2
170.	7.8	10.5	9.2	5.6
180.	7.3	9.6	10.5	6.4
190.	6.2	8.6	11.6	6.9
200.	5.5	8.1	12.3	6.9
210.	5.3	8.0	13.1	6.7
220.	5.3	7.7	13.8	6.5
230.	5.4	7.4	14.4	6.4
240.	5.5	7.1	14.9	6.4
250.	6.1	6.9	14.9	6.7
260.	7.6	6.7	14.7	7.7
270.	10.1	6.2	14.1	9.8
280.	11.8	5.5	12.8	11.5
290.	12.1	5.1	12.1	11.7
300.	11.9	5.0	12.0	11.6
310.	11.5	5.0	11.7	11.5
320.	10.8	5.0	11.2	11.6
330.	10.3	5.1	10.0	11.8
340.	9.9	5.2	8.8	11.8
350.	10.2	5.5	7.4	11.1
360.	11.1	5.9	6.3	10.0
MAX.	13.1 70 DEGR.	14.3 120 DEGR.	14.9 240 DEGR.	11.8 330 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	13.1	70	14.3	120	14.9	240	11.8	330

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 2000 BUILD 8-HR PM CAMBRDG/BOWD/NEWCH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAMBRIDGE ST W FF	0.	0.	-1000.	0.	1000.	270.	AG	1983.	15.0	0.0	28.1	0.00	0.0
2. NEW CHARDON ST FF	0.	0.	0.	1000.	1000.	360.	AG	679.	12.5	0.0	21.2	0.00	0.0
3. CAMBRIDGE ST E FF	0.	0.	1000.	0.	1000.	90.	AG	2050.	15.0	0.0	28.9	0.00	0.0
4. BOWDOIN ST FF	0.	0.	0.	-1000.	1000.	180.	AG	944.	15.0	0.0	22.8	0.00	0.0
5. CAMBRIDGE ST W Q	-14.	-5.	-41.	-5.	27.	270.	AG	859.	100.0	0.0	15.1	0.51	4.5
6. NEW CHARDON RIGHT Q	-3.	15.	-3.	26.	11.	360.	AG	275.	100.0	0.0	9.1	0.21	1.8
7. NEW CHARDON THRU Q	2.	15.	2.	41.	26.	360.	AG	820.	100.0	0.0	12.1	0.60	4.3
8. CAMBRIDGE ST E Q	16.	5.	31.	5.	15.	90.	AG	843.	100.0	0.0	12.1	0.37	2.4
9. BOWDOIN ST Q	3.	-15.	3.	19.	35.	360.	AG	820.	100.0	0.0	12.1	0.75	5.8

WARNING: THE LENGTH (26. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (11. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (35. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (15. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SUB SHOP	-13.	-14.	1.8
2. BENCH	-12.	30.	1.8
3. COURTYARD BENCH	14.	27.	1.8
4. TELEPHONES	19.	-19.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 2000 BUILD 8-HR PM CAMBRDG/BOWD/NEWCH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	5.7	3.3	3.3	5.2
10.	5.8	3.4	3.1	4.9
20.	6.1	3.5	3.0	4.5
30.	6.4	3.7	3.0	4.2
40.	6.5	4.0	3.0	4.1
50.	6.6	4.3	3.0	3.9
60.	6.5	4.5	3.0	3.9
70.	6.5	4.8	3.0	4.0
80.	6.3	5.1	3.2	4.1
90.	5.6	5.6	3.5	3.8
100.	4.7	6.0	3.8	3.4
110.	3.9	6.6	3.9	3.1
120.	3.5	6.8	3.9	3.0
130.	3.4	6.8	4.1	3.0
140.	3.5	7.0	4.3	3.0
150.	3.5	6.6	4.5	3.0
160.	3.6	6.1	4.7	3.0
170.	3.7	5.4	4.9	3.1
180.	3.5	5.0	5.4	3.3
190.	3.3	4.6	5.9	3.4
200.	3.1	4.5	6.4	3.5
210.	3.1	4.3	6.8	3.4
220.	3.1	4.1	7.2	3.4
230.	3.1	3.9	7.2	3.3
240.	3.2	3.7	7.3	3.3
250.	3.5	3.7	7.0	3.4
260.	4.0	3.7	6.5	4.0
270.	5.2	3.5	5.9	4.9
280.	6.1	3.2	5.4	5.7
290.	6.3	3.0	5.1	6.1
300.	6.4	3.0	5.0	6.0
310.	6.4	3.0	4.8	6.0
320.	6.1	3.0	4.6	6.2
330.	5.8	3.0	4.2	6.2
340.	5.3	3.1	3.8	6.2
350.	5.2	3.2	3.6	5.6
360.	5.7	3.3	3.3	5.2
MAX.	6.6 50 DEGR.	7.0 140 DEGR.	7.3 240 DEGR.	6.2 320 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	6.6	50	7.0	140	7.3	240	6.2	320

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 2000 NO-BUILD 1-HR PM CAMBRDG/BOWD/NEWCH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAMBRIDGE ST W FF	0.	0.	-1000.	0.	1000.	270.	AG	2510.	31.1	0.0	28.1	0.00	0.0
2. NEW CHARDON ST FF	0.	0.	0.	1000.	1000.	360.	AG	860.	24.8	0.0	21.2	0.00	0.0
3. CAMBRIDGE ST E FF	0.	0.	1000.	0.	1000.	90.	AG	2595.	31.1	0.0	28.9	0.00	0.0
4. BOWDOIN ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1195.	49.9	0.0	22.8	0.00	0.0
5. CAMBRIDGE ST W Q	-14.	-5.	-51.	-5.	36.	270.	AG	1347.	100.0	0.0	15.1	0.65	6.0
6. NEW CHARDON RIGHT Q	-3.	15.	-3.	29.	13.	360.	AG	431.	100.0	0.0	9.1	0.27	2.2
7. NEW CHARDON THRU Q	2.	15.	2.	51.	35.	360.	AG	1285.	100.0	0.0	12.1	0.76	5.9
8. CAMBRIDGE ST E Q	16.	5.	35.	5.	19.	90.	AG	1320.	100.0	0.0	12.1	0.47	3.1
9. BOWDOIN ST Q	3.	-15.	3.	41.	56.	360.	AG	1285.	100.0	0.0	12.1	0.95	9.4

WARNING: THE LENGTH (35. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (13. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (56. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (19. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SUB SHOP	-13.	-14.	1.8
2. BENCH	-12.	30.	1.8
3. COURTYARD BENCH	14.	27.	1.8
4. TELEPHONES	19.	-19.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 2000 NO-BUILD 1-HR PM CAMBRDG/BOWD/NEWCH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	11.1	5.9	6.3	10.0
10.	12.0	6.4	5.5	9.0
20.	12.4	6.9	5.1	8.4
30.	12.9	7.8	5.0	8.1
40.	13.0	8.8	5.0	7.8
50.	12.6	9.6	5.0	7.6
60.	12.9	10.2	5.0	7.5
70.	13.1	10.9	5.1	7.8
80.	12.9	11.7	5.6	7.9
90.	11.6	12.9	6.4	7.2
100.	9.3	13.7	7.0	6.0
110.	7.7	14.1	7.2	5.3
120.	7.0	14.3	7.4	5.1
130.	6.8	13.8	7.8	5.1
140.	6.9	13.3	8.0	5.0
150.	7.2	12.4	8.3	5.0
160.	7.5	11.5	8.5	5.2
170.	7.8	10.5	9.2	5.6
180.	7.3	9.6	10.5	6.4
190.	6.2	8.6	11.6	6.9
200.	5.5	8.1	12.3	6.9
210.	5.3	8.0	13.1	6.7
220.	5.3	7.7	13.8	6.5
230.	5.4	7.4	14.4	6.4
240.	5.5	7.1	14.9	6.4
250.	6.1	6.9	14.9	6.7
260.	7.6	6.7	14.7	7.7
270.	10.1	6.2	14.1	9.8
280.	11.8	5.5	12.8	11.5
290.	12.1	5.1	12.1	11.7
300.	11.9	5.0	12.0	11.6
310.	11.5	5.0	11.7	11.5
320.	10.8	5.0	11.2	11.6
330.	10.3	5.1	10.0	11.8
340.	9.9	5.2	8.8	11.8
350.	10.2	5.5	7.4	11.1
360.	11.1	5.9	6.3	10.0
MAX.	13.1 70 DEGR.	14.3 120 DEGR.	14.9 240 DEGR.	11.8 330 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	13.1	70	14.3	120	14.9	240	11.8	330

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 2000 NO-BUILD 8-HR PM CAMBRDG/BOWD/NEWCH

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. CAMBRIDGE ST W FF	0.	0.	-1000.	0.	1000.	270.	AG	1983.	15.0	0.0	28.1	0.00	0.0
2. NEW CHARDON ST FF	0.	0.	0.	1000.	1000.	360.	AG	679.	12.5	0.0	21.2	0.00	0.0
3. CAMBRIDGE ST E FF	0.	0.	1000.	0.	1000.	90.	AG	2050.	15.0	0.0	28.9	0.00	0.0
4. BOWDOIN ST FF	0.	0.	0.	-1000.	1000.	180.	AG	944.	15.0	0.0	22.8	0.00	0.0
5. CAMBRIDGE ST W Q	-14.	-5.	-41.	-5.	27.	270.	AG	859.	100.0	0.0	15.1	0.51	4.5
6. NEW CHARDON RIGHT Q	-3.	15.	-3.	26.	11.	360.	AG	275.	100.0	0.0	9.1	0.21	1.8
7. NEW CHARDON THRU Q	2.	15.	2.	41.	26.	360.	AG	820.	100.0	0.0	12.1	0.60	4.3
8. CAMBRIDGE ST E Q	16.	5.	31.	5.	15.	90.	AG	843.	100.0	0.0	12.1	0.37	2.4
9. BOWDOIN ST Q	3.	-15.	3.	19.	35.	360.	AG	820.	100.0	0.0	12.1	0.75	5.8

WARNING: THE LENGTH (26. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (11. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (35. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (15. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SUB SHOP	-13.	-14.	1.8
2. BENCH	-12.	30.	1.8
3. COURTYARD BENCH	14.	27.	1.8
4. TELEPHONES	19.	-19.	1.8

JOB: CAL3QHC NEW BOSTON GARDEN (#10) RUN: 2000 NO-BUILD 8-HR PM CAMBRDG/BOWD/NEWCH

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	5.7	3.3	3.3	5.2
10.	5.8	3.4	3.1	4.9
20.	6.1	3.5	3.0	4.5
30.	6.4	3.7	3.0	4.2
40.	6.5	4.0	3.0	4.1
50.	6.6	4.3	3.0	3.9
60.	6.5	4.5	3.0	3.9
70.	6.5	4.8	3.0	4.0
80.	6.3	5.1	3.2	4.1
90.	5.6	5.6	3.5	3.8
100.	4.7	6.0	3.8	3.4
110.	3.9	6.6	3.9	3.1
120.	3.5	6.8	3.9	3.0
130.	3.4	6.8	4.1	3.0
140.	3.5	7.0	4.3	3.0
150.	3.5	6.6	4.5	3.0
160.	3.6	6.1	4.7	3.0
170.	3.7	5.4	4.9	3.1
180.	3.5	5.0	5.4	3.3
190.	3.3	4.6	5.9	3.4
200.	3.1	4.5	6.4	3.5
210.	3.1	4.3	6.8	3.4
220.	3.1	4.1	7.2	3.4
230.	3.1	3.9	7.2	3.3
240.	3.2	3.7	7.3	3.3
250.	3.5	3.7	7.0	3.4
260.	4.0	3.7	6.5	4.0
270.	5.2	3.5	5.9	4.9
280.	6.1	3.2	5.4	5.7
290.	6.3	3.0	5.1	6.1
300.	6.4	3.0	5.0	6.0
310.	6.4	3.0	4.8	6.0
320.	6.1	3.0	4.6	6.2
330.	5.8	3.0	4.2	6.2
340.	5.3	3.1	3.8	6.2
350.	5.2	3.2	3.6	5.6
360.	5.7	3.3	3.3	5.2
MAX.	6.6 50 DEGR.	7.0 140 DEGR.	7.3 240 DEGR.	6.2 320 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE
0 -360	6.6	50	7.0	140	7.3	240	6.2	320

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1995 BUILD 1-HR PM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	2075.	28.9	0.0	19.4	0.00	0.0
2. CAUSEWAY ST FF	-9.	9.	757.	652.	1000.	50.	AG	1560.	36.1	0.0	19.4	0.00	0.0
3. MERRIMAC ST FF	0.	-18.	1000.	-18.	1000.	90.	AG	1230.	36.1	0.0	16.7	0.00	0.0
4. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1495.	28.9	0.0	24.3	0.00	0.0
5. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	6260.	28.9	7.6	24.3	0.00	0.0
6. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	6260.	28.9	7.6	24.3	0.00	0.0
7. LOMASNEY WAY THRU Q	-21.	9.	-51.	32.	37.	308.	AG	725.	100.0	0.0	9.1	0.68	6.2
8. LOMASNEY WAY LEFT Q	-18.	9.	-36.	23.	22.	310.	AG	725.	100.0	0.0	9.1	0.44	3.7
9. CAUSEWAY THRU/LEFT Q	-2.	23.	30.	49.	41.	50.	AG	821.	100.0	0.0	9.1	0.79	6.9
10. CAUSEWAY RIGHT Q	-3.	26.	28.	52.	41.	50.	AG	821.	100.0	0.0	9.1	0.78	6.8
11. STANIFORD ST Q	5.	-26.	5.	-70.	44.	180.	AG	1475.	100.0	0.0	12.1	0.78	7.4
12. MERRIMAC STREET QUEU	14.	-8.	64.	-8.	50.	90.	AG	1736.	100.0	0.0	12.1	0.91	8.4

WARNING: THE LENGTH (41. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (22. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (44. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (41. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (50. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (44. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	40.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8
5. PROPOSED HOUSING	-24.	-15.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1995 BUILD 1-HR PM CAUSE/LOM/STAN/MER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	5.8	10.5	9.7	9.2	8.5
10.	5.5	10.4	8.9	8.8	8.2
20.	5.2	9.9	8.6	8.5	8.3
30.	5.2	9.5	8.6	8.2	8.7
40.	5.5	9.0	8.7	7.8	9.1
50.	6.3	8.2	8.4	7.2	8.6
60.	7.3	6.8	9.4	6.4	8.1
70.	8.1	5.8	11.3	6.0	8.0
80.	8.9	5.6	14.0	5.9	8.9
90.	9.5	6.0	16.1	5.6	9.2
100.	9.9	6.7	16.6	5.2	8.6
110.	10.0	7.4	15.7	5.0	7.8
120.	10.5	8.1	14.4	5.0	7.7
130.	10.7	8.4	13.0	5.0	7.8
140.	10.5	8.5	11.9	5.0	7.8
150.	10.1	8.4	11.4	5.0	7.4
160.	9.8	8.5	11.2	5.1	6.9
170.	9.6	9.0	11.5	5.3	6.4
180.	9.0	9.6	12.4	5.8	5.9
190.	8.0	9.3	13.4	6.3	5.3
200.	7.4	8.3	13.9	6.6	5.1
210.	7.4	7.4	14.0	7.0	5.0
220.	7.5	7.2	13.7	7.6	5.0
230.	7.5	7.4	13.8	8.1	5.0
240.	7.3	7.7	13.2	8.4	5.0
250.	7.0	8.3	12.1	8.4	5.0
260.	6.7	9.0	11.6	8.4	5.0
270.	6.7	9.7	11.8	8.4	5.0
280.	7.0	10.3	12.3	8.5	5.2
290.	7.5	10.8	12.7	8.8	5.6
300.	7.4	10.9	12.7	9.6	6.3
310.	6.8	10.9	11.9	10.3	7.1
320.	6.2	10.4	10.7	9.9	7.7
330.	6.0	10.5	9.8	9.5	8.0
340.	5.8	10.3	9.7	9.2	8.4
350.	5.8	10.4	9.8	9.3	8.4
360.	5.8	10.5	9.7	9.2	8.5
MAX.	10.7 130 DEGR.	10.9 300 DEGR.	16.6 100 DEGR.	10.3 310 DEGR.	9.2 90 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	10.7	130	10.9	300	16.6	100	10.3	310	9.2	90

JOB: CALQ3HC NEW BOSTON GARDEN (#4)
RUN: 1995 BUILD 8-HR PM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	1639.	17.3	0.0	19.4	0.00	0.0
2. CAUSEWAY ST FF	-9.	9.	757.	652.	1000.	50.	AG	1232.	17.3	0.0	19.4	0.00	0.0
3. MERRIMAC ST FF	0.	-18.	1000.	-18.	1000.	90.	AG	972.	17.3	0.0	16.7	0.00	0.0
4. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1181.	17.3	0.0	24.3	0.00	0.0
5. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	4945.	14.4	7.6	24.3	0.00	0.0
6. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	4945.	14.4	7.6	24.3	0.00	0.0
7. LOMASNEY WAY THRU Q	-21.	9.	-43.	26.	28.	308.	AG	454.	100.0	0.0	9.1	0.54	4.6
8. LOMASNEY WAY LEFT Q	-18.	9.	-32.	20.	17.	310.	AG	454.	100.0	0.0	9.1	0.35	2.9
9. CAUSEWAY THRU/LEFT Q	-2.	23.	21.	42.	30.	50.	AG	513.	100.0	0.0	9.1	0.63	5.0
10. CAUSEWAY RIGHT Q	-3.	26.	19.	45.	29.	50.	AG	513.	100.0	0.0	9.1	0.62	4.9
11. STANIFORD ST Q	5.	-26.	5.	-58.	32.	180.	AG	922.	100.0	0.0	12.1	0.61	5.3
12. MERRIMAC STREET QUEU	14.	-8.	46.	-8.	33.	90.	AG	1086.	100.0	0.0	12.1	0.72	5.4

WARNING: THE LENGTH (30. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (17. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (32. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (29. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (33. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (32. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	40.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8
5. PROPOSED HOUSING	-24.	-15.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1995 BUILD 8-HR PM CAUSE/LOM/STAN/MER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	3.3	5.6	5.2	4.9	4.7
10.	3.2	5.3	5.0	4.9	4.6
20.	3.1	4.9	4.7	4.5	4.6
30.	3.0	4.7	4.9	4.3	4.7
40.	3.2	4.5	5.0	3.9	4.7
50.	3.5	4.1	4.9	3.5	4.6
60.	3.8	3.7	5.4	3.3	4.4
70.	4.1	3.3	6.5	3.3	4.4
80.	4.6	3.2	7.7	3.3	4.8
90.	5.1	3.3	8.5	3.2	4.9
100.	5.4	3.5	8.7	3.1	4.7
110.	5.5	3.8	8.7	3.0	4.5
120.	5.8	4.2	8.2	3.0	4.4
130.	5.8	4.6	7.5	3.0	4.4
140.	5.8	4.7	6.9	3.0	4.4
150.	5.7	4.8	6.7	3.0	4.1
160.	5.4	4.8	6.4	3.0	3.8
170.	5.2	5.2	6.7	3.2	3.6
180.	4.7	5.3	7.1	3.4	3.4
190.	4.5	5.1	7.5	3.5	3.2
200.	4.3	4.5	7.9	3.5	3.0
210.	4.3	4.2	8.0	3.6	3.0
220.	4.4	4.0	8.0	3.8	3.0
230.	4.3	4.0	8.0	4.0	3.0
240.	4.0	4.3	7.8	4.4	3.0
250.	3.9	4.5	7.1	4.7	3.0
260.	3.6	4.8	6.8	4.9	3.0
270.	3.8	5.1	6.9	5.0	3.0
280.	3.8	5.4	7.1	5.0	3.1
290.	4.1	5.5	7.1	5.3	3.2
300.	4.1	5.8	7.1	5.5	3.5
310.	3.8	5.6	6.4	5.6	3.8
320.	3.5	5.8	6.1	5.6	4.1
330.	3.3	5.7	5.4	5.2	4.3
340.	3.3	5.8	5.5	5.0	4.6
350.	3.3	5.7	5.4	5.1	4.7
360.	3.3	5.6	5.2	4.9	4.7
MAX.	5.8 120 DEGR.	5.8 300 DEGR.	8.7 100 DEGR.	5.6 310 DEGR.	4.9 90 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	5.8	120	5.8	300	8.7	100	5.6	310	4.9	90

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1995 NO-BUILD 1-HR PM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	2065.	28.9	0.0	19.4	0.00	0.0
2. CAUSEWAY ST FF	-9.	9.	757.	652.	1000.	50.	AG	1490.	36.1	0.0	19.4	0.00	0.0
3. MERRIMAC ST FF	0.	-18.	1000.	-18.	1000.	90.	AG	1195.	36.1	0.0	16.7	0.00	0.0
4. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1450.	28.9	0.0	24.3	0.00	0.0
5. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	6100.	28.9	7.6	24.3	0.00	0.0
6. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	6100.	28.9	7.6	24.3	0.00	0.0
7. LOMASNEY WAY THRU Q	-21.	9.	-51.	32.	37.	308.	AG	725.	100.0	0.0	9.1	0.68	6.2
8. LOMASNEY WAY LEFT Q	-18.	9.	-36.	23.	22.	310.	AG	725.	100.0	0.0	9.1	0.44	3.7
9. CAUSEWAY THRU/LEFT Q	-2.	23.	23.	43.	32.	50.	AG	821.	100.0	0.0	9.1	0.66	5.3
10. CAUSEWAY RIGHT Q	-3.	26.	28.	52.	41.	50.	AG	821.	100.0	0.0	9.1	0.78	6.8
11. STANIFORD ST Q	5.	-26.	5.	-69.	43.	180.	AG	1475.	100.0	0.0	12.1	0.76	7.2
12. MERRIMAC STREET QUEU	14.	-8.	64.	-8.	50.	90.	AG	1736.	100.0	0.0	12.1	0.91	8.4

WARNING: THE LENGTH (32. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (22. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (41. m) OF THE QUEUE LINK # 10 IS GREATER THAN THE LENGTH (32. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (43. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (41. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (50. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (43. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	40.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8
5. PROPOSED HOUSING	-24.	-15.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1995 NO-BUILD 1-HR PM CAUSE/LOM/STAN/MER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	5.7	10.3	9.5	9.2	8.4
10.	5.5	10.1	8.7	8.7	8.1
20.	5.2	9.5	8.5	8.4	8.2
30.	5.2	9.1	8.5	8.1	8.6
40.	5.5	8.6	8.6	7.8	8.9
50.	6.2	8.0	8.4	7.1	8.4
60.	7.0	6.7	9.4	6.4	8.0
70.	7.7	5.8	11.3	6.0	8.0
80.	8.5	5.6	14.0	5.9	8.8
90.	9.2	5.9	16.0	5.6	9.2
100.	9.7	6.7	16.5	5.2	8.6
110.	9.9	7.4	15.7	5.0	7.8
120.	10.4	8.0	14.4	5.0	7.6
130.	10.6	8.4	12.9	5.0	7.8
140.	10.5	8.4	11.9	5.0	7.7
150.	10.1	8.4	11.4	5.0	7.4
160.	9.8	8.5	11.2	5.1	6.9
170.	9.5	9.0	11.5	5.3	6.4
180.	8.9	9.6	12.2	5.8	5.9
190.	8.0	9.2	13.2	6.2	5.3
200.	7.4	8.3	13.8	6.5	5.1
210.	7.4	7.4	14.0	6.9	5.0
220.	7.5	7.1	13.7	7.4	5.0
230.	7.5	7.3	13.8	8.0	5.0
240.	7.3	7.7	13.2	8.2	5.0
250.	7.0	8.3	12.0	8.4	5.0
260.	6.7	8.9	11.6	8.4	5.0
270.	6.7	9.6	11.8	8.4	5.0
280.	6.9	10.2	12.3	8.5	5.2
290.	7.4	10.7	12.7	8.8	5.6
300.	7.4	10.8	12.6	9.6	6.3
310.	6.8	10.7	11.9	10.1	6.9
320.	6.1	10.4	10.7	9.9	7.6
330.	5.8	10.4	9.8	9.4	8.0
340.	5.8	10.2	9.6	9.2	8.4
350.	5.8	10.3	9.6	9.2	8.4
360.	5.7	10.3	9.5	9.2	8.4
MAX.	10.6 130 DEGR.	10.8 300 DEGR.	16.5 100 DEGR.	10.1 310 DEGR.	9.2 90 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	10.6	130	10.8	300	16.5	100	10.1	310	9.2	90

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1995 NO-BUILD 8-HR PM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	1631.	17.3	0.0	19.4	0.00	0.0
2. CAUSEWAY ST FF	-9.	9.	757.	652.	1000.	50.	AG	1177.	17.3	0.0	19.4	0.00	0.0
3. MERRIMAC ST FF	0.	-18.	1000.	-18.	1000.	90.	AG	944.	17.3	0.0	16.7	0.00	0.0
4. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1146.	17.3	0.0	24.3	0.00	0.0
5. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	4819.	14.4	7.6	24.3	0.00	0.0
6. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	4819.	14.4	7.6	24.3	0.00	0.0
7. LOMASNEY WAY THRU Q	-21.	9.	-43.	26.	28.	308.	AG	454.	100.0	0.0	9.1	0.54	4.6
8. LOMASNEY WAY LEFT Q	-18.	9.	-32.	20.	17.	310.	AG	454.	100.0	0.0	9.1	0.35	2.9
9. CAUSEWAY THRU/LEFT Q	-2.	23.	17.	38.	24.	50.	AG	513.	100.0	0.0	9.1	0.51	4.0
10. CAUSEWAY RIGHT Q	-3.	26.	19.	45.	29.	50.	AG	513.	100.0	0.0	9.1	0.62	4.9
11. STANIFORD ST Q	5.	-26.	5.	-57.	31.	180.	AG	922.	100.0	0.0	12.1	0.60	5.2
12. MERRIMAC STREET QUEU	14.	-8.	46.	-8.	33.	90.	AG	1086.	100.0	0.0	12.1	0.72	5.4

WARNING: THE LENGTH (24. m) OF THE QUEUE LINK # 9 IS GREATER THAN THE LENGTH (17. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (29. m) OF THE QUEUE LINK # 10 IS GREATER THAN THE LENGTH (24. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (31. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (29. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (33. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (31. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	40.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8
5. PROPOSED HOUSING	-24.	-15.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 1995 NO-BUILD 8-HR PM CAUSE/LOM/STAN/MER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	3.3	5.5	5.1	4.9	4.7
10.	3.2	5.1	4.9	4.9	4.6
20.	3.1	4.7	4.7	4.5	4.6
30.	3.0	4.4	4.9	4.2	4.7
40.	3.2	4.3	5.0	3.9	4.7
50.	3.5	4.0	4.9	3.5	4.6
60.	3.7	3.6	5.4	3.3	4.4
70.	4.0	3.3	6.5	3.3	4.4
80.	4.4	3.2	7.7	3.3	4.7
90.	4.8	3.3	8.5	3.2	4.9
100.	5.2	3.5	8.7	3.1	4.7
110.	5.5	3.8	8.7	3.0	4.5
120.	5.7	4.2	8.2	3.0	4.4
130.	5.8	4.6	7.4	3.0	4.4
140.	5.8	4.7	6.9	3.0	4.3
150.	5.6	4.8	6.7	3.0	4.1
160.	5.4	4.8	6.4	3.0	3.8
170.	5.2	5.2	6.6	3.2	3.6
180.	4.7	5.3	7.1	3.4	3.4
190.	4.5	5.1	7.4	3.5	3.2
200.	4.3	4.5	7.9	3.5	3.0
210.	4.3	4.1	7.9	3.6	3.0
220.	4.4	3.9	8.0	3.7	3.0
230.	4.3	4.0	7.9	4.0	3.0
240.	4.0	4.3	7.8	4.3	3.0
250.	3.9	4.5	7.1	4.6	3.0
260.	3.6	4.8	6.8	4.9	3.0
270.	3.8	5.1	6.9	5.0	3.0
280.	3.8	5.3	7.0	5.0	3.1
290.	4.1	5.5	7.1	5.3	3.2
300.	4.0	5.8	7.1	5.4	3.5
310.	3.8	5.6	6.3	5.6	3.8
320.	3.5	5.7	6.1	5.6	4.1
330.	3.3	5.7	5.4	5.2	4.3
340.	3.3	5.8	5.5	4.8	4.6
350.	3.3	5.6	5.2	5.1	4.7
360.	3.3	5.5	5.1	4.9	4.7
MAX.	5.8 130 DEGR.	5.8 300 DEGR.	8.7 100 DEGR.	5.6 310 DEGR.	4.9 90 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	5.8	130	5.8	300	8.7	100	5.6	310	4.9	90

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 2000 BUILD 1-HR AM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	1911.	24.8	0.0	19.4	0.00	0.0
2. CAUSEWAY ST FF	-9.	9.	757.	652.	1000.	50.	AG	1763.	31.1	0.0	19.4	0.00	0.0
3. MERRIMAC ST FF	0.	-18.	1000.	-18.	1000.	90.	AG	1445.	31.1	0.0	16.7	0.00	0.0
4. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	2119.	24.8	0.0	24.3	0.00	0.0
5. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	8710.	24.8	7.6	24.3	0.00	0.0
6. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	8710.	24.8	7.6	24.3	0.00	0.0
7. LOMASNEY WAY THRU Q	-21.	9.	-1535.	1194.	1922.	308.	AG	685.	100.0	0.0	9.1	2.84	320.3
8. LOMASNEY WAY LEFT Q	-18.	9.	-255.	204.	307.	310.	AG	685.	100.0	0.0	9.1	1.25	51.1
9. CAUSEWAY THRU/LEFT Q	-2.	23.	26.	46.	36.	50.	AG	421.	100.0	0.0	9.1	0.71	6.0
10. CAUSEWAY RIGHT Q	-3.	26.	2.	30.	7.	50.	AG	421.	100.0	0.0	9.1	0.15	1.1
11. STANIFORD ST Q	5.	-26.	5.	-61.	35.	180.	AG	841.	100.0	0.0	12.1	0.69	5.8
12. MERRIMAC STREET QUEU	14.	-8.	36.	-8.	22.	90.	AG	1428.	100.0	0.0	12.1	0.71	3.6

WARNING: THE LENGTH (1922. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (305. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (35. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (7. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	40.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8
5. PROPOSED HOUSING	-24.	-15.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 2000 BUILD 1-HR AM CAUSE/LOM/STAN/MER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	5.9	8.3	8.4	8.3	8.3
10.	5.7	8.3	8.1	7.7	7.9
20.	5.3	8.0	7.9	7.1	7.6
30.	5.2	8.2	8.1	6.7	7.8
40.	5.4	8.3	8.1	6.4	8.0
50.	6.0	7.9	7.6	6.1	7.9
60.	6.5	6.7	8.0	6.0	7.7
70.	6.6	5.8	8.9	5.9	7.5
80.	6.8	5.6	10.2	5.9	8.1
90.	7.1	5.8	11.5	5.6	8.4
100.	7.3	6.0	12.0	5.3	8.1
110.	7.4	6.1	12.0	5.0	7.4
120.	7.6	6.4	11.6	5.0	7.2
130.	8.0	6.7	11.1	5.0	7.2
140.	8.2	7.2	10.6	5.0	7.1
150.	8.6	7.5	10.5	5.0	6.9
160.	8.7	7.9	10.3	5.1	6.6
170.	8.9	8.5	10.6	5.4	6.4
180.	8.5	9.0	11.3	6.0	6.0
190.	7.7	8.9	12.0	6.3	5.4
200.	7.2	8.1	12.5	6.4	5.1
210.	7.3	7.2	12.4	6.5	5.0
220.	7.3	7.1	12.3	6.6	5.0
230.	7.4	7.2	12.6	6.8	5.0
240.	7.5	7.6	12.3	7.1	5.0
250.	7.6	8.1	11.4	7.3	5.0
260.	7.7	8.8	10.9	7.4	5.0
270.	8.1	9.7	11.3	7.5	5.0
280.	8.7	10.8	11.7	7.6	5.2
290.	9.5	11.8	13.0	8.3	5.9
300.	9.4	12.0	13.5	9.8	7.2
310.	8.1	11.0	12.6	10.9	8.9
320.	6.7	9.4	10.7	10.8	9.9
330.	6.0	8.6	8.9	9.7	9.6
340.	6.0	8.4	8.6	8.8	9.3
350.	6.0	8.5	8.5	8.4	8.9
360.	5.9	8.3	8.4	8.3	8.3
MAX.	9.5 290 DEGR.	12.0 300 DEGR.	13.5 300 DEGR.	10.9 310 DEGR.	9.9 320 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	9.5	290	12.0	300	13.5	300	10.9	310	9.9	320

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 2000 BUILD 8-HR AM CAUSE/LOM/STAN/MERIM

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG4
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	1510.	15.0	0.0	19.4	0.00	0.0
2. CAUSEWAY ST FF	-9.	9.	757.	652.	1000.	50.	AG	1393.	15.0	0.0	19.4	0.00	0.0
3. MERRIMAC ST FF	0.	-18.	1000.	-18.	1000.	90.	AG	1142.	15.0	0.0	16.7	0.00	0.0
4. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1674.	15.0	0.0	24.3	0.00	0.0
5. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	6881.	12.5	7.6	24.3	0.00	0.0
6. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	6881.	12.5	7.6	24.3	0.00	0.0
7. LOMASNEY WAY THRU Q	-21.	9.	-1058.	821.	1317.	308.	AG	437.	100.0	0.0	9.1	2.25	219.5
8. LOMASNEY WAY LEFT Q	-18.	9.	-58.	41.	51.	310.	AG	437.	100.0	0.0	9.1	0.99	8.5
9. CAUSEWAY THRU/LEFT Q	-2.	23.	19.	40.	27.	50.	AG	268.	100.0	0.0	9.1	0.56	4.4
10. CAUSEWAY RIGHT Q	-3.	26.	1.	29.	5.	50.	AG	268.	100.0	0.0	9.1	0.12	0.9
11. STANIFORD ST Q	5.	-26.	5.	-52.	26.	180.	AG	537.	100.0	0.0	12.1	0.54	4.3
12. MERRIMAC STREET QUEU	14.	-8.	47.	-8.	34.	90.	AG	911.	100.0	0.0	12.1	0.90	5.6

WARNING: THE LENGTH (1317. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (305. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (26. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (5. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (34. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (26. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	40.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8
5. PROPOSED HOUSING	-24.	-15.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 2000 BUILD 8-HR AM CAUSE/LOM/STAN/MERIM

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	3.4	4.5	4.6	4.7	4.7
10.	3.3	4.4	4.7	4.5	4.4
20.	3.1	4.3	4.5	4.3	4.2
30.	3.0	4.2	4.6	4.1	4.2
40.	3.2	4.3	4.7	3.8	4.1
50.	3.4	4.1	4.6	3.5	4.3
60.	3.5	3.7	5.1	3.3	4.3
70.	3.6	3.3	6.0	3.4	4.4
80.	3.7	3.2	7.0	3.4	4.6
90.	3.8	3.3	7.8	3.2	4.9
100.	4.0	3.5	8.1	3.1	4.6
110.	4.1	3.8	7.9	3.0	4.3
120.	4.5	4.1	7.5	3.0	4.1
130.	4.7	4.4	6.9	3.0	4.0
140.	4.9	4.6	6.4	3.0	4.0
150.	5.0	4.5	6.2	3.0	3.9
160.	4.9	4.7	6.0	3.0	3.7
170.	4.8	4.9	6.2	3.2	3.6
180.	4.5	5.0	6.5	3.5	3.5
190.	4.4	4.8	6.9	3.6	3.2
200.	4.1	4.5	7.0	3.7	3.0
210.	4.2	4.0	7.2	3.6	3.0
220.	4.4	3.8	7.2	3.6	3.0
230.	4.4	3.9	7.3	3.6	3.0
240.	4.4	4.2	7.2	3.7	3.0
250.	4.4	4.4	6.6	3.9	3.0
260.	4.5	4.8	6.4	4.1	3.0
270.	4.5	5.2	6.5	4.3	3.0
280.	4.7	5.7	6.7	4.5	3.1
290.	4.8	6.2	7.3	4.8	3.3
300.	4.7	6.1	7.4	5.3	4.0
310.	4.3	5.7	6.9	6.0	4.7
320.	3.6	5.1	5.7	6.0	5.0
330.	3.4	4.5	4.9	5.2	5.3
340.	3.4	4.5	4.7	4.9	5.2
350.	3.4	4.4	4.7	4.8	4.9
360.	3.4	4.5	4.6	4.7	4.7
MAX.	5.0 150 DEGR.	6.2 290 DEGR.	8.1 100 DEGR.	6.0 310 DEGR.	5.3 330 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	5.0	150	6.2	290	8.1	100	6.0	310	5.3	330

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 2000 NO-BUILD 1-HR AM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 5.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	1875.	24.8	0.0	19.4	0.00	0.0
2. CAUSEWAY ST FF	-9.	9.	757.	652.	1000.	50.	AG	1725.	31.1	0.0	19.4	0.00	0.0
3. MERRIMAC ST FF	0.	-18.	1000.	-18.	1000.	90.	AG	1445.	31.1	0.0	16.7	0.00	0.0
4. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	2045.	24.8	0.0	24.3	0.00	0.0
5. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	8425.	24.8	7.6	24.3	0.00	0.0
6. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	8425.	24.8	7.6	24.3	0.00	0.0
7. LOMASNEY WAY THRU Q	-21.	9.	-1535.	1194.	1922.	308.	AG	685.	100.0	0.0	9.1	2.84	320.3
8. LOMASNEY WAY LEFT Q	-18.	9.	-255.	204.	307.	310.	AG	685.	100.0	0.0	9.1	1.25	51.1
9. CAUSEWAY THRU/LEFT Q	-2.	23.	26.	46.	36.	50.	AG	421.	100.0	0.0	9.1	0.70	6.0
10. CAUSEWAY RIGHT Q	-3.	26.	2.	30.	7.	50.	AG	421.	100.0	0.0	9.1	0.15	1.1
11. STANIFORD ST Q	5.	-26.	5.	-58.	32.	180.	AG	841.	100.0	0.0	12.1	0.65	5.3
12. MERRIMAC STREET QUEU	14.	-8.	36.	-8.	22.	90.	AG	1428.	100.0	0.0	12.1	0.71	3.6

WARNING: THE LENGTH (1922. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (305. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (32. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (7. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	40.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8
5. PROPOSED HOUSING	-24.	-15.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 2000 NO-BUILD 1-HR AM CAUSE/LOM/STAN/MER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	5.9	8.3	8.4	8.2	8.3
10.	5.6	8.2	8.1	7.7	7.8
20.	5.3	8.0	7.9	7.1	7.6
30.	5.2	8.1	8.1	6.6	7.8
40.	5.4	8.2	8.0	6.4	8.0
50.	6.0	7.9	7.6	6.1	7.8
60.	6.4	6.7	8.0	6.0	7.7
70.	6.6	5.8	8.9	5.9	7.4
80.	6.8	5.6	10.2	5.9	8.1
90.	7.0	5.8	11.5	5.6	8.4
100.	7.3	6.0	12.0	5.3	8.1
110.	7.4	6.1	12.0	5.0	7.4
120.	7.6	6.4	11.6	5.0	7.1
130.	8.0	6.7	11.1	5.0	7.0
140.	8.2	7.2	10.6	5.0	6.9
150.	8.5	7.5	10.5	5.0	6.8
160.	8.6	7.9	10.3	5.1	6.6
170.	8.8	8.4	10.6	5.4	6.4
180.	8.5	9.0	11.3	5.9	5.9
190.	7.6	8.8	12.0	6.3	5.4
200.	7.2	7.9	12.3	6.3	5.1
210.	7.3	7.2	12.4	6.3	5.0
220.	7.3	7.0	12.2	6.4	5.0
230.	7.4	7.2	12.6	6.7	5.0
240.	7.5	7.6	12.2	6.9	5.0
250.	7.5	8.1	11.4	7.1	5.0
260.	7.7	8.7	10.8	7.4	5.0
270.	8.0	9.5	11.2	7.5	5.0
280.	8.6	10.6	11.6	7.6	5.2
290.	9.5	11.8	12.9	8.3	5.9
300.	9.2	11.9	13.5	9.7	7.2
310.	8.1	11.0	12.6	10.9	8.9
320.	6.6	9.4	10.6	10.6	9.7
330.	6.0	8.6	8.9	9.6	9.6
340.	5.9	8.2	8.6	8.8	9.2
350.	5.9	8.3	8.5	8.4	8.8
360.	5.9	8.3	8.4	8.2	8.3
MAX.	9.5 290 DEGR.	11.9 300 DEGR.	13.5 300 DEGR.	10.9 310 DEGR.	9.7 320 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	CONCENTRATION (PPM), ANGLE (DEGREES) REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	9.5	290	11.9	300	13.5	300	10.9	310	9.7	320

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 2000 NO-BUILD 8-HR AM CAUSE/LOM/STAN/MER

I. SITE VARIABLES

U = 1.0 M/S CLAS = 4 (D) VS = 0.0 CM/S ATIM = 60. MINUTES MIXH = 850. M
Z0 = 321. CM VD = 0.0 CM/S AMB = 3.0 PPM

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LINK LENGTH (M)	LINK BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	DC	QAVG
1. LOMASNEY WAY FF	0.	0.	-788.	616.	1000.	308.	AG	1481.	15.0	0.0	19.4	0.00	0.0
2. CAUSEWAY ST FF	-9.	9.	757.	652.	1000.	50.	AG	1363.	15.0	0.0	19.4	0.00	0.0
3. MERRIMAC ST FF	0.	-18.	1000.	-18.	1000.	90.	AG	1142.	15.0	0.0	16.7	0.00	0.0
4. STANIFORD ST FF	0.	0.	0.	-1000.	1000.	180.	AG	1616.	15.0	0.0	24.3	0.00	0.0
5. RAMP T/F LEVER I-93	-152.	152.	63.	368.	305.	45.	BR	6656.	12.5	7.6	24.3	0.00	0.0
6. RAMP T/F LEVER I-93	-152.	152.	-457.	152.	305.	270.	BR	6656.	12.5	7.6	24.3	0.00	0.0
7. LOMASNEY WAY THRU Q	-21.	9.	-1058.	821.	1317.	308.	AG	437.	100.0	0.0	9.1	2.25	219.5
8. LOMASNEY WAY LEFT Q	-18.	9.	-58.	41.	51.	310.	AG	437.	100.0	0.0	9.1	0.99	8.5
9. CAUSEWAY THRU/LEFT Q	-2.	23.	19.	40.	26.	50.	AG	268.	100.0	0.0	9.1	0.56	4.4
10. CAUSEWAY RIGHT Q	-3.	26.	1.	29.	5.	50.	AG	268.	100.0	0.0	9.1	0.12	0.9
11. STANIFORD ST Q	5.	-26.	5.	-50.	24.	180.	AG	537.	100.0	0.0	12.1	0.50	4.0
12. MERRIMAC STREET QUEU	14.	-8.	47.	-8.	34.	90.	AG	911.	100.0	0.0	12.1	0.90	5.0

WARNING: THE LENGTH (1317. m) OF THE QUEUE LINK # 7 IS GREATER THAN THE LENGTH (305. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (24. m) OF THE QUEUE LINK # 11 IS GREATER THAN THE LENGTH (5. m) OF THE FREE FLOW LINK

WARNING: THE LENGTH (34. m) OF THE QUEUE LINK # 12 IS GREATER THAN THE LENGTH (24. m) OF THE FREE FLOW LINK

III. RECEPTOR LOCATIONS AND MODEL RESULTS

RECEPTOR	COORDINATES (M) X	Y	Z
1. O'NEAL BUILDING	-9.	40.	1.8
2. RESTAURANT	12.	15.	1.8
3. BUILDING #151	23.	-6.	1.8
4. MENTAL HEALTH CNTR	24.	-46.	1.8
5. PROPOSED HOUSING	-24.	-15.	1.8

JOB: CALQ3HC NEW BOSTON GARDEN (#4) RUN: 2000 NO-BUILD 8-HR AM CAUSE/LOM/STAN/MER

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

ANGLES (DEGREES)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5
0.	3.4	4.5	4.6	4.7	4.7
10.	3.3	4.4	4.6	4.5	4.4
20.	3.1	4.3	4.5	4.3	4.2
30.	3.0	4.1	4.6	4.1	4.2
40.	3.2	4.2	4.7	3.8	4.1
50.	3.4	4.0	4.6	3.5	4.3
60.	3.5	3.6	5.1	3.3	4.3
70.	3.6	3.3	6.0	3.4	4.4
80.	3.7	3.2	7.0	3.4	4.6
90.	3.8	3.3	7.8	3.2	4.9
100.	4.0	3.5	8.1	3.1	4.6
110.	4.1	3.8	7.9	3.0	4.3
120.	4.5	4.1	7.5	3.0	4.1
130.	4.7	4.4	6.9	3.0	4.0
140.	4.9	4.6	6.4	3.0	3.9
150.	5.0	4.5	6.2	3.0	3.8
160.	4.8	4.7	6.0	3.0	3.7
170.	4.8	4.9	6.2	3.2	3.6
180.	4.4	5.0	6.5	3.4	3.4
190.	4.4	4.8	6.9	3.6	3.2
200.	4.1	4.4	7.0	3.6	3.0
210.	4.2	4.0	7.1	3.6	3.0
220.	4.4	3.8	7.2	3.5	3.0
230.	4.4	3.9	7.3	3.6	3.0
240.	4.4	4.2	7.2	3.6	3.0
250.	4.4	4.4	6.6	3.8	3.0
260.	4.5	4.8	6.3	4.0	3.0
270.	4.4	5.1	6.5	4.2	3.0
280.	4.7	5.7	6.7	4.4	3.1
290.	4.7	6.2	7.3	4.8	3.3
300.	4.7	6.1	7.3	5.3	4.0
310.	4.2	5.7	6.8	6.0	4.7
320.	3.6	5.1	5.7	5.8	5.0
330.	3.4	4.5	4.9	5.2	5.2
340.	3.4	4.5	4.7	4.8	5.1
350.	3.4	4.4	4.7	4.8	4.9
360.	3.4	4.5	4.6	4.7	4.7
MAX.	5.0 150 DEGR.	6.2 290 DEGR.	8.1 100 DEGR.	6.0 310 DEGR.	5.2 330 DEGR.

SUMMARY TABLE

ANGLE RANGES (DEGREES)	REC1	ANGLE	REC2	ANGLE	REC3	ANGLE	REC4	ANGLE	REC5	ANGLE
0 -360	5.0	150	6.2	290	8.1	100	6.0	310	5.2	330

APPENDIX: NOISE

A. NOISE PREDICTION WORKSHEETS

NOISE PREDICTION WORKSHEET

NAME Site 1

DATE

PROJECT DESCRIPTION Spaulding Rehab. Hospital
Across from 101 Dalton Street

1.	LANE NO./ROAD SEGMENT		NB			SB														
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		429	44	8	92	8	0												
4.	S(km/h)		40	40	40	40	40	0												
5.	D(m)		6.1			12.3														
6.	ϕ_1 (degrees)	Fig. 5																		
7.	ϕ_2 (degrees)	Fig. 5																		
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	59.6	70.7	80.0	58.6	70.7	0												
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	22.0	12.2	3.8	15.4	4.8	0												
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	3.9			-0.9														
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																		
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																		
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																		
12.	ϕ_L (degrees)	Fig. 10																		
13.	ϕ_R (degrees)	Fig. 10																		
14.	δ_o (metres)	Fig. 9																		
15.	N_o	Eq. 18																		
16.	Δ_B (dBA)	Appendix B																		
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		59.5	61.9	62.7	48.1	49.6	0												
19.	$L_{eq}(h)$ (dBA)		66.3			51.9														
20.	Δ_s (dBA)	Fig. 8																		
21.	$L_{eq}(h)$ (dBA)																			
22.	$L_{eq}(h)$ (dBA)		66.5																	
23.	ND/S (m/km)																			
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																		
25.	$L_{10}(h)_i$ (dBA)																			
26.	$L_{10}(h)$ (dBA)																			
27.	$L_{10}(h)$ (dBA)																			

NOISE PREDICTION WORKSHEET

NAME Site 2

DATE

PROJECT DESCRIPTION Martha Rd. (Existing)

1.	LANE NO./ROAD SEGMENT		EB																	
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		499	47	4															
4.	S(km/h)		49	47	48															
5.	D(m)		2.0																	
6.	ϕ_1 (degrees)	Fig. 5																		
7.	ϕ_2 (degrees)	Fig. 5																		
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	61.7	72.4	80.0															
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	21.8	11.7	1.0															
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	1.0																	
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																		
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																		
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																		
12.	ϕ_L (degrees)	Fig. 10																		
13.	ϕ_R (degrees)	Fig. 10																		
14.	δ_o (metres)	Fig. 9																		
15.	N_o	Eq. 18																		
16.	Δ_B (dBA)	Appendix B																		
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		65.5	47.2	63.0															
19.	$L_{eq}(h)$ (dBA)		18.3																	
20.	Δ_s (dBA)	Fig. 8																		
21.	$L_{eq}(h)$ (dBA)																			
22.	$L_{eq}(h)$ (dBA)																			
23.	ND/S (m/km)																			
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																		
25.	$L_{10}(h)_i$ (dBA)																			
26.	$L_{10}(h)$ (dBA)																			
27.	$L_{10}(h)$ (dBA)																			

NOISE PREDICTION WORKSHEET

NAME Site 3

DATE

PROJECT DESCRIPTION Mental Health Centre Stanwood

			NB			SB															
1.	LANE NO./ROAD SEGMENT																				
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		484	40	12	556	52	0													
4.	S(km/h)		48	48	48	48	48	0													
5.	D(m)		25.2			12.2															
6.	ϕ_1 (degrees)	Fig. 5																			
7.	ϕ_2 (degrees)	Fig. 5																			
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	61.7	73.4	80.0	61.7	73.4	0													
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	21.8	11.0	5.7	22.1	12.1	0													
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	4.6			0.9															
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																			
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																			
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																			
12.	ϕ_L (degrees)	Fig. 10																			
13.	ϕ_R (degrees)	Fig. 10																			
14.	δ_o (metres)	Fig. 9																			
15.	N_o	Eq. 18																			
16.	Δ_B (dBA)	Appendix B																			
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		63.1	74.0	65.7	60.0	61.4	0													
19.	$L_{eq}(h)$ (dBA)		71.0			63.9															
20.	Δ_s (dBA)	Fig. 8																			
21.	$L_{eq}(h)$ (dBA)																				
22.	$L_{eq}(h)$ (dBA)		70.1																		
23.	ND/S (m/km)																				
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																			
25.	$L_{10}(h)_i$ (dBA)																				
26.	$L_{10}(h)$ (dBA)																				
27.	$L_{10}(h)$ (dBA)																				

NOISE PREDICTION WORKSHEET

NAME 4

DATE

PROJECT DESCRIPTION Fairlea Cresc / Connaught Ave & Canal + Merivale Rd. Existing

1.	LANE NO./ROAD SEGMENT																		
2.	VEHICLE CLAS.	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)	694	47	0	560	36	0												
4.	S(km/h)	40	40	0	40	40	0												
5.	D(m)	6.0			20.0														
6.	ϕ_1 (degrees) Fig. 5																		
7.	ϕ_2 (degrees) Fig. 5																		
8.	$(\overline{L_o})E_i$ (dBA) Fig. 2	59.6	70.7	0	58.6	70.7	0												
9.	10 LOG $(N_i D_o/S_i)$ (dB) Fig. 3	24.1	12.6	0	23.2	11.3	0												
10a.	10 LOG (D_o/D) (dBA) Fig. 4	4.6			-1.2														
10b.	15 LOG (D_o/D) (dBA) Fig. 4																		
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA) Fig. 6																		
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA) Fig. 7																		
12.	ϕ_L (degrees) Fig. 10																		
13.	ϕ_R (degrees) Fig. 10																		
14.	δ_o (metres) Fig. 9																		
15.	N_o Eq. 18																		
16.	Δ_B (dBA) Appendix B																		
17.	CONSTANT (dB)	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)	61.7	57.3	0	55.6	55.8	0												
19.	$L_{eq}(h)$ (dBA)	65.0			58.7														
20.	Δ_s (dBA) Fig. 8																		
21.	$L_{eq}(h)$ (dBA)																		
22.	$L_{eq}(h)$ (dBA)	65.9																	
23.	ND/S (m/km)																		
24.	$(L_{10}-L_{eq})_i$ (dB) Fig. 15																		
25.	$L_{10}(h)_i$ (dBA)																		
26.	$L_{10}(h)$ (dBA)																		
27.	$L_{10}(h)$ (dBA)																		

NOISE PREDICTION WORKSHEET

NAME Site 5

DATE

PROJECT DESCRIPTION 169 N. Washington St. (Existi

1.	LANE NO./ROAD SEGMENT		NB			SB													
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		444	20	8	567	40	16												
4.	S(km/h)		40	40	40	40	40	40												
5.	D(m)		4.9			10.5														
6.	ϕ_1(degrees)	Fig. 5																		
7.	ϕ_2(degrees)	Fig. 5																		
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	59.6	70.1	80.0	59.6	70.7	80.0												
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	22.2	14.7	4.8	23.3	11.9	7.8												
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	4.9			1.5														
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																		
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																		
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																		
12.	ϕ_L (degrees)	Fig. 10																		
13.	ϕ_R (degrees)	Fig. 10																		
14.	δ_o (metres)	Fig. 9																		
15.	N_o	Eq. 18																		
16.	Δ_B (dBA)	Appendix B																		
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		60.7	65.4	64.7	58.4	59.0	64.3												
19.	$L_{eq}(h)$ (dBA)		68.8			66.2														
20.	Δ_s (dBA)	Fig. 8																		
21.	$L_{eq}(h)$ (dBA)																			
22.	$L_{eq}(h)$ (dBA)		70.7																	
23.	ND/S (m/km)																			
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																		
25.	$L_{10}(h)_i$ (dBA)																			
26.	$L_{10}(h)$ (dBA)																			
27.	$L_{10}(h)$ (dBA)																			

NOISE PREDICTION WORKSHEET

NAME Site 1

DATE 4/11/96

PROJECT DESCRIPTION Lowell Techn. Inst. Across from 20 Nashua Street

1.	LANE NO./ROAD SEGMENT		NB			SB													
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		759	93	3	60	16	0												
4.	S(km/h)		40	40	40	40	40	0												
5.	D(m)		17.1			26.7														
6.	ϕ_1 (degrees)	Fig. 5																		
7.	ϕ_2 (degrees)	Fig. 5																		
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	57.6	76.7	90.0	59.6	70.7	0												
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	24.5	15.4	0.5	13.5	7.7	0												
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	-0.6			-2.5														
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																		
11a.	10 LOG $(\psi_0(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																		
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																		
12.	ϕ_L (degrees)	Fig. 10																		
13.	ϕ_R (degrees)	Fig. 10																		
14.	δ_o (metres)	Fig. 9																		
15.	N_o	Eq. 18																		
16.	Δ_B (dBA)	Appendix B																		
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		57.5	60.5	54.9	44.6	51.0	0												
19.	$L_{eq}(h)$ (dBA)		63.0			51.9														
20.	Δ_s (dBA)	Fig. 8																		
21.	$L_{eq}(h)$ (dBA)																			
22.	$L_{eq}(h)$ (dBA)		63.3																	
23.	ND/S (m/km)																			
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																		
25.	$L_{10}(h)_i$ (dBA)																			
26.	$L_{10}(h)$ (dBA)																			
27.	$L_{10}(h)$ (dBA)																			

1990 Existing

NOISE PREDICTION WORKSHEET

NAME Site 1

DATE 2/4/90 11:15 A.M.

PROJECT DESCRIPTION Smiths Prairie Hospital
Near Lion 100 Main Street Carrie

			NB			SB															
1.	LANE NO./ROAD SEGMENT																				
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		428	44	8	92	8	0													
4.	S(km/h)		40	40	40	40	40	0													
5.	D(m)		17.1			26.7															
6.	ϕ_1 (degrees)	Fig. 5																			
7.	ϕ_2 (degrees)	Fig. 5																			
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	58.6	70.1	80.0	58.6	70.7	0													
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	22.0	12.2	3.8	15.4	4.8	0													
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	-0.6			-2.5															
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																			
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																			
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																			
12.	ϕ_L (degrees)	Fig. 10																			
13.	ϕ_R (degrees)	Fig. 10																			
14.	δ_o (metres)	Fig. 9																			
15.	N_o	Eq. 18																			
16.	Δ_B (dBA)	Appendix B																			
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		55.0	57.3	58.2	46.5	48.0	0													
19.	$L_{eq}(h)$ (dBA)		61.8			50.3															
20.	Δ_s (dBA)	Fig. 8																			
21.	$L_{eq}(h)$ (dBA)																				
22.	$L_{eq}(h)$ (dBA)		62.1																		
23.	ND/S (m/km)																				
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																			
25.	$L_{10}(h)_i$ (dBA)																				
26.	$L_{10}(h)$ (dBA)																				
27.	$L_{10}(h)$ (dBA)																				

NOISE PREDICTION WORKSHEET

NAME Site 2

DATE 7/7 11:45 A.M.

PROJECT DESCRIPTION Charles River Park Apts.
Martha Rd. near Ivanhoe Way

1.	LANE NO./ROAD SEGMENT		EB																	
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		488	47	4															
4.	S(km/h)		49	49	49															
5.	D(m)		15.2																	
6.	ϕ_1 (degrees)	Fig. 5																		
7.	ϕ_2 (degrees)	Fig. 5																		
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	61.7	73.4	70.0															
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	21.9	11.8	1.0															
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	-0.06																	
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																		
11a.	10 LOG $(\psi_o(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																		
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																		
12.	ϕ_L (degrees)	Fig. 10																		
13.	ϕ_R (degrees)	Fig. 10																		
14.	δ_o (metres)	Fig. 9																		
15.	N_o	Eq. 18																		
16.	Δ_B (dBA)	Appendix B																		
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		58.4	60.1	56.1															
19.	$L_{eq}(h)$ (dBA)		63.3																	
20.	Δ_s (dBA)	Fig. 8																		
21.	$L_{eq}(h)$ (dBA)																			
22.	$L_{eq}(h)$ (dBA)																			
23.	ND/S (m/km)																			
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																		
25.	$L_{10}(h)_i$ (dBA)																			
26.	$L_{10}(h)$ (dBA)																			
27.	$L_{10}(h)$ (dBA)																			

NOISE PREDICTION WORKSHEET

NAME Site 3

DATE 2/27/90 12:05 P.M.

PROJECT DESCRIPTION Mental Health Center
Stanford St.

1.	LANE NO./ROAD SEGMENT		NB			SB														
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		474	40	12	556	52	0												
4.	S(km/h)		48	48	48	48	48	0												
5.	D(m)		15.2			26.7														
6.	ϕ_1(degrees)	Fig. 5																		
7.	ϕ_2(degrees)	Fig. 5																		
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	61.7	73.4	80.0	61.7	73.4	0												
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	21.8	11.0	5.7	22.4	12.1	0												
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	-0.06			-2.5														
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																		
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																		
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																		
12.	ϕ_L (degrees)	Fig. 10																		
13.	ϕ_R (degrees)	Fig. 10																		
14.	δ_o (metres)	Fig. 9																		
15.	N_o	Eq. 18																		
16.	Δ_B (dBA)	Appendix B																		
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		58.4	59.3	60.6	56.6	58.0	0												
19.	$L_{eq}(h)$ (dBA)		64.3			60.4														
20.	Δ_s (dBA)	Fig. 8																		
21.	$L_{eq}(h)$ (dBA)																			
22.	$L_{eq}(h)$ (dBA)		65.8																	
23.	ND/S (m/km)																			
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																		
25.	$L_{10}(h)_i$ (dBA)																			
26.	$L_{10}(h)$ (dBA)																			
27.	$L_{10}(h)$ (dBA)																			

NOISE PREDICTION WORKSHEET

NAME Site 4

DATE 7/27/10 2:15 P.M.

PROJECT DESCRIPTION Fraser Lands
Traffic Count and Noise Data

			WB			EB															
1.	LANE NO./ROAD SEGMENT																				
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	
3.	N(vph)		684	47	0	560	36	0													
4.	S(km/h)		40	40	0	40	40	0													
5.	D(m)		14.4			25.9															
6.	ϕ_1 (degrees)	Fig. 5																			
7.	ϕ_2 (degrees)	Fig. 5																			
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	59.6	70.7	0	59.6	70.7	0													
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	24.1	12.6	0	23.2	11.3	0													
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	0.2			-2.4															
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																			
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																			
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																			
12.	ϕ_L (degrees)	Fig. 10																			
13.	ϕ_R (degrees)	Fig. 10																			
14.	δ_o (metres)	Fig. 9																			
15.	N_o	Eq. 18																			
16.	Δ_B (dBA)	Appendix B																			
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		59.0	58.5	0	54.4	54.6	0													
19.	$L_{eq}(h)$ (dBA)		61.3			57.5															
20.	Δ_s (dBA)	Fig. 8																			
21.	$L_{eq}(h)$ (dBA)																				
22.	$L_{eq}(h)$ (dBA)		62.8																		
23.	ND/S (m/km)																				
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																			
25.	$L_{10}(h)_i$ (dBA)																				
26.	$L_{10}(h)$ (dBA)																				
27.	$L_{10}(h)$ (dBA)																				

NOISE PREDICTION WORKSHEET

NAME Site 5

DATE 9/27/90 3 P.M.

PROJECT DESCRIPTION 169 N. Washington / Commercial

1.	LANE NO./ROAD SEGMENT		NB			SB														
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		444	20	8	568	40	16												
4.	S(km/h)		40	40	40	40	40	40												
5.	D(m)		7.9			13.5														
6.	ϕ_1 (degrees)	Fig. 5																		
7.	ϕ_2 (degrees)	Fig. 5																		
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	58.6	70.7	80.0	58.6	70.7	80.0												
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	22.2	14.8	4.8	23.3	11.9	7.9												
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	2.8			0.5														
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																		
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																		
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																		
12.	ϕ_L (degrees)	Fig. 10																		
13.	ϕ_R (degrees)	Fig. 10																		
14.	δ_o (metres)	Fig. 9																		
15.	N_o	Eq. 18																		
16.	Δ_B (dBA)	Appendix B																		
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		58.6	65.3	62.6	57.4	58.0	63.3												
19.	$L_{eq}(h)$ (dBA)		66.7			65.2														
20.	Δ_s (dBA)	Fig. 8																		
21.	$L_{eq}(h)$ (dBA)																			
22.	$L_{eq}(h)$ (dBA)		69.0																	
23.	ND/S (m/km)																			
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																		
25.	$L_{10}(h)_i$ (dBA)																			
26.	$L_{10}(h)$ (dBA)																			
27.	$L_{10}(h)$ (dBA)																			

NOISE PREDICTION WORKSHEET

NAME File

DATE

PROJECT DESCRIPTION

			NB			SB														
1.	LANE NO./ROAD SEGMENT																			
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		956	74	11	437	37	5												
4.	S(km/h)		40	40	40	40	40	40												
5.	D(m)		17.1			26.7														
6.	ϕ_1 (degrees)	Fig. 5																		
7.	ϕ_2 (degrees)	Fig. 5																		
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	59.6	70.7	70.0	55.6	10.7	70.0												
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	25.5	15.0	6.2	22.1	11.5	2.7												
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	-0.6			-2.5														
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																		
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																		
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																		
12.	ϕ_L (degrees)	Fig. 10																		
13.	ϕ_R (degrees)	Fig. 10																		
14.	δ_o (metres)	Fig. 9																		
15.	N_o	Eq. 18																		
16.	Δ_B (dBA)	Appendix B																		
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		59.5	60.1	60.6	53.2	54.7	55.2												
19.	$L_{eq}(h)$ (dBA)		64.6			59.2														
20.	Δ_s (dBA)	Fig. 8																		
21.	$L_{eq}(h)$ (dBA)																			
22.	$L_{eq}(h)$ (dBA)		65.7																	
23.	ND/S (m/km)																			
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																		
25.	$L_{10}(h)_i$ (dBA)																			
26.	$L_{10}(h)$ (dBA)																			
27.	$L_{10}(h)$ (dBA)																			

NOISE PREDICTION WORKSHEET

NAME Site 2

DATE

PROJECT DESCRIPTION Charles River Apts.
Martha Rd. near ... Way year 2000 No-Build
(AM Pk.)

1.	LANE NO./ROAD SEGMENT		EB																	
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		974	76	11															
4.	S(km/h)		48	48	48															
5.	D(m)		15.2																	
6.	ϕ_1(degrees)	Fig. 5																		
7.	ϕ_2(degrees)	Fig. 5																		
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	61.7	73.4	80.0															
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	-4.9	14.3	5.4															
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	-0.06																	
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																		
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																		
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																		
12.	ϕ_L (degrees)	Fig. 10																		
13.	ϕ_R(degrees)	Fig. 10																		
14.	δ_o(metres)	Fig. 9																		
15.	N_o	Eq. 18																		
16.	Δ_B(dBA)	Appendix B																		
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		61.4	62.6	60.3															
19.	$L_{eq}(h)$ (dBA)		66.3																	
20.	Δ_s (dBA)	Fig. 8																		
21.	$L_{eq}(h)$ (dBA)																			
22.	$L_{eq}(h)$ (dBA)																			
23.	ND/S (m/km)																			
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																		
25.	$L_{10}(h)_i$ (dBA)																			
26.	$L_{10}(h)$ (dBA)																			
27.	$L_{10}(h)$ (dBA)																			

NOISE PREDICTION WORKSHEET

NAME Site 2

DATE

PROJECT DESCRIPTION Mental Health Center
Standard +, Year 2000, No-Build (Alt. 4)

1.	LANE NO./ROAD SEGMENT		NB			SB														
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		100	79	11	851	75	9												
4.	S(km/h)		40	40	40	40	40	40												
5.	D(m)		15.2			26.7														
6.	ϕ_1 (degrees)	Fig. 5																		
7.	ϕ_2 (degrees)	Fig. 5																		
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	58.6	70.7	80.0	58.6	70.7	80.0												
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	25.8	15.2	6.2	25.0	14.5	5.3												
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	-0.06			-2.5														
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																		
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																		
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																		
12.	ϕ_L (degrees)	Fig. 10																		
13.	ϕ_R (degrees)	Fig. 10																		
14.	δ_o (metres)	Fig. 9																		
15.	N_o	Eq. 18																		
16.	Δ_B (dBA)	Appendix B																		
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		59.3	60.8	61.1	56.1	57.7	57.8												
19.	$L_{eq}(h)$ (dBA)		65.2			62.0														
20.	Δ_s (dBA)	Fig. 8																		
21.	$L_{eq}(h)$ (dBA)																			
22.	$L_{eq}(h)$ (dBA)		66.9																	
23.	ND/S (m/km)																			
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																		
25.	$L_{10}(h)_i$ (dBA)																			
26.	$L_{10}(h)$ (dBA)																			
27.	$L_{10}(h)$ (dBA)																			

NOISE PREDICTION WORKSHEET

NAME Site 4

DATE

PROJECT DESCRIPTION Boston Garden between Canal and [illegible] St. Year 2000, No-Build (All Lanes)

1.	LANE NO./ROAD SEGMENT		WB			EB														
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		805	71	9	979	86	11												
4.	S(km/h)		40	40	40	40	40	40												
5.	D(m)		16.0			29.7														
6.	ϕ_1 (degrees)	Fig. 5																		
7.	ϕ_2 (degrees)	Fig. 5																		
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	58.6	70.7	80.0	58.6	70.7	80.0												
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	24.9	14.3	5.3	25.6	15.1	6.2												
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	-0.3			-3.0														
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																		
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																		
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																		
12.	ϕ_L (degrees)	Fig. 10																		
13.	ϕ_R (degrees)	Fig. 10																		
14.	δ_o (metres)	Fig. 9																		
15.	N_o	Eq. 18																		
16.	Δ_B (dBA)	Appendix B																		
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		58.1	59.7	60.0	56.2	57.8	58.2												
19.	$L_{eq}(h)$ (dBA)		64.1			62.3														
20.	Δ_s (dBA)	Fig. 8																		
21.	$L_{eq}(h)$ (dBA)																			
22.	$L_{eq}(h)$ (dBA)		66.3																	
23.	ND/S (m/km)																			
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																		
25.	$L_{10}(h)_i$ (dBA)																			
26.	$L_{10}(h)$ (dBA)																			
27.	$L_{10}(h)$ (dBA)																			

NOISE PREDICTION WORKSHEET

NAME Site 5

DATE

PROJECT DESCRIPTION 169 N, Washington St. South of Causeway / Commercial Row Houses → Neufeld (PM Peak)

1.	LANE NO./ROAD SEGMENT		NB			SB														
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		596	52	7	42	56	7												
4.	S(km/h)		40	40	40	40	40	40												
5.	D(m)			7.7			13.5													
6.	ϕ_1 (degrees)	Fig. 5																		
7.	ϕ_2 (degrees)	Fig. 5																		
8.	$(\bar{L_o})E_i$ (dBA)	Fig. 2	57.6	70.1	70.0	57.6	70.1	70.0												
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	23.5	12.9	4.2	23.9	13.2	4.2												
10a.	10 LOG (D_o/D) (dBA)	Fig. 4		2.8			0.5													
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																		
11a.	10 LOG $(\psi_0(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																		
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																		
12.	ϕ_L (degrees)	Fig. 10																		
13.	ϕ_R (degrees)	Fig. 10																		
14.	δ_o (metres)	Fig. 9																		
15.	N_o	Eq. 18																		
16.	Δ_B (dBA)	Appendix B																		
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		60.0	61.4	62.0	57.9	59.4	59.7												
19.	$L_{eq}(h)$ (dBA)			66.0			63.8													
20.	Δ_s (dBA)	Fig. 8																		
21.	$L_{eq}(h)$ (dBA)																			
22.	$L_{eq}(h)$ (dBA)					68.0														
23.	ND/S (m/km)																			
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																		
25.	$L_{10}(h)_i$ (dBA)																			
26.	$L_{10}(h)$ (dBA)																			
27.	$L_{10}(h)$ (dBA)																			

2000 Build

NOISE PREDICTION WORKSHEET

NAME Site 1

DATE

PROJECT DESCRIPTION Valley Peak Hospital
[illegible] 2000 Build (PM Peak)

			NB			SB													
1.	LANE NO./ROAD SEGMENT																		
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		1790	113	14	490	43	5											
4.	S(km/h)		40	40	40	40	40	40											
5.	D(m)		17.1			26.7													
6.	ϕ_1 (degrees)	Fig. 5																	
7.	ϕ_2 (degrees)	Fig. 5																	
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	58.6	70.7	80.0	57.6	70.7	80.0											
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	26.8	16.3	7.2	22.6	12.1	2.7											
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	-0.6			-2.5													
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																	
11a.	10 LOG $(\psi_6(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																	
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																	
12.	ϕ_L (degrees)	Fig. 10																	
13.	ϕ_R (degrees)	Fig. 10																	
14.	δ_o (metres)	Fig. 9																	
15.	N_o	Eq. 18																	
16.	Δ_B (dBA)	Appendix B																	
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		60.0	61.9	62.1	53.7	55.3	55.2											
19.	$L_{eq}(h)$ (dBA)		66.3			59.6													
20.	Δ_s (dBA)	Fig. 8																	
21.	$L_{eq}(h)$ (dBA)																		
22.	$L_{eq}(h)$ (dBA)		67.1																
23.	ND/S (m/km)																		
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																	
25.	$L_{10}(h)_i$ (dBA)																		
26.	$L_{10}(h)$ (dBA)																		
27.	$L_{10}(h)$ (dBA)																		

NOISE PREDICTION WORKSHEET

NAME [illegible]

DATE

PROJECT DESCRIPTION Cinda River Rate, [illegible] (Build) [illegible]

1.	LANE NO./ROAD SEGMENT		EB																	
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		1137	100	13															
4.	S(km/h)		47	48	47															
5.	D(m)		15.2																	
6.	ϕ_1 (degrees)	Fig. 5																		
7.	ϕ_2 (degrees)	Fig. 5																		
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	61.7	73.4	70.0															
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	25.5	14.9	6.1															
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	-0.06																	
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																		
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																		
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																		
12.	ϕ_L (degrees)	Fig. 10																		
13.	ϕ_R (degrees)	Fig. 10																		
14.	δ_o (metres)	Fig. 9																		
15.	N_o	Eq. 18																		
16.	Δ_B (dBA)	Appendix B																		
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		62.1	63.2	61.0															
19.	$L_{eq}(h)$ (dBA)		67.0																	
20.	Δ_s (dBA)	Fig. 8																		
21.	$L_{eq}(h)$ (dBA)																			
22.	$L_{eq}(h)$ (dBA)																			
23.	ND/S (m/km)																			
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																		
25.	$L_{10}(h)_i$ (dBA)																			
26.	$L_{10}(h)$ (dBA)																			
27.	$L_{10}(h)$ (dBA)																			

NOISE PREDICTION WORKSHEET

NAME Site 3

DATE

PROJECT DESCRIPTION Mental Health Center
Stanislaus St. Year 2000 (Build) AM Peak

1.	LANE NO./ROAD SEGMENT		NB			SB													
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		1076	95	12	853	75	9												
4.	S(km/h)		40	40	40	40	40	40												
5.	D(m)		15.2			26.7														
6.	ϕ_1 (degrees)	Fig. 5																		
7.	ϕ_2 (degrees)	Fig. 5																		
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	58.6	70.7	80.0	58.6	70.7	80.0												
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	26.1	15.5	6.5	25.0	14.5	5.3												
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	-0.06			-2.5														
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																		
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																		
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																		
12.	ϕ_L (degrees)	Fig. 10																		
13.	ϕ_R (degrees)	Fig. 10																		
14.	δ_o (metres)	Fig. 9																		
15.	N_o	Eq. 18																		
16.	Δ_B (dBA)	Appendix B																		
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		59.6	61.1	61.4	56.1	57.7	57.8												
19.	$L_{eq}(h)$ (dBA)		65.5			62.0														
20.	Δ_s (dBA)	Fig. 8																		
21.	$L_{eq}(h)$ (dBA)																			
22.	$L_{eq}(h)$ (dBA)		67.1																	
23.	ND/S (m/km)																			
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																		
25.	$L_{10}(h)_i$ (dBA)																			
26.	$L_{10}(h)$ (dBA)																			
27.	$L_{10}(h)$ (dBA)																			

NOISE PREDICTION WORKSHEET

NAME Site 4

DATE

PROJECT DESCRIPTION Boston Garden (Causeway) between Canal + Haverhill Sts. 2000 (Build)

1.	LANE NO./ROAD SEGMENT		WB			EB														
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		907	71	9	1011	89	11												
4.	S(km/h)		40	40	40	40	40	40												
5.	D(m)		16.0			29.7														
6.	ϕ_1 (degrees)	Fig. 5																		
7.	ϕ_2 (degrees)	Fig. 5																		
8.	$(\bar{L_o})E_i$ (dBA)	Fig. 2	58.6	70.7	80.0	58.6	70.7	90.0												
9.	10 LOG $(N_i D_o/S_i)$ (dB)	Fig. 3	24.8	14.3	5.3	25.8	15.2	6.2												
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	-0.3			-3.0														
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																		
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																		
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																		
12.	ϕ_L (degrees)	Fig. 10																		
13.	ϕ_R (degrees)	Fig. 10																		
14.	δ_o (metres)	Fig. 9																		
15.	N_o	Eq. 18																		
16.	Δ_B (dBA)	Appendix B																		
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		58.1	59.7	60.0	56.4	57.9	58.2												
19.	$L_{eq}(h)$ (dBA)		64.1			62.3														
20.	Δ_s (dBA)	Fig. 8																		
21.	$L_{eq}(h)$ (dBA)																			
22.	$L_{eq}(h)$ (dBA)		66.3																	
23.	ND/S (m/km)																			
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																		
25.	$L_{10}(h)_i$ (dBA)																			
26.	$L_{10}(h)$ (dBA)																			
27.	$L_{10}(h)$ (dBA)																			

NOISE PREDICTION WORKSHEET

NAME Site 5

DATE

PROJECT DESCRIPTION 169 N. Washington St.
Year 2000 (Build) AM Peak

			NB			SB															
1.	LANE NO./ROAD SEGMENT																				
2.	VEHICLE CLAS.		A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT	A	MT	HT
3.	N(vph)		949	75	9	642	56	7													
4.	S(km/h)		40	40	40	40	40	40													
5.	D(m)		7.9			13.5															
6.	ϕ_1 (degrees)	Fig. 5																			
7.	ϕ_2 (degrees)	Fig. 5																			
8.	$(\overline{L_o})E_i$ (dBA)	Fig. 2	58.6	70.7	80.0	58.6	70.7	80.0													
9.	10 LOG $(N_i D_o / S_i)$ (dB)	Fig. 3	25.0	14.5	5.3	23.8	13.2	4.2													
10a.	10 LOG (D_o/D) (dBA)	Fig. 4	2.8			0.5															
10b.	15 LOG (D_o/D) (dBA)	Fig. 4																			
11a.	10 LOG $(\psi_b(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 6																			
11b.	10 LOG $(\psi_{1/2}(\phi_1, \phi_2)/\pi)$ (dBA)	Fig. 7																			
12.	ϕ_L (degrees)	Fig. 10																			
13.	ϕ_R (degrees)	Fig. 10																			
14.	δ_o (metres)	Fig. 9																			
15.	N_o	Eq. 18																			
16.	Δ_B (dBA)	Appendix B																			
17.	CONSTANT (dB)		-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
18.	$L_{eq}(h)$ (dBA)		61.4	63.0	63.1	57.9	59.4	59.7													
19.	$L_{eq}(h)$ (dBA)		67.3			63.8															
20.	Δ_s (dBA)	Fig. 8																			
21.	$L_{eq}(h)$ (dBA)																				
22.	$L_{eq}(h)$ (dBA)		68.9																		
23.	ND/S (m/km)																				
24.	$(L_{10}-L_{eq})_i$ (dB)	Fig. 15																			
25.	$L_{10}(h)_i$ (dBA)																				
26.	$L_{10}(h)$ (dBA)																				
27.	$L_{10}(h)$ (dBA)																				

APPENDIX: WIND

A. WIND TUNNEL SIMULATION OF THE ATMOSPHERIC BOUNDARY LAYER

B. WATER FLUME WIND AND SNOW SIMULATOR

C. PEDESTRIAN WIND COMFORT TABLES

D. MEAN WIND SPEED TABLE

E. MEAN WIND SPEED RATIO TABLES

A. WIND TUNNEL SIMULATION OF THE ATMOSPHERIC BOUNDARY LAYER

WIND TUNNEL SIMULATION OF THE ATMOSPHERIC BOUNDARY LAYER

In the lowest layer of the atmosphere the wind is slowed down by the drag effect of the numerous features on the earth's surface such as vegetation, the ground roughness and man made structures. Within this atmospheric boundary layer the mean wind speed (mean implying an averaging time of about one hour) generally increase with height until the top of the layer is reached, at which point surface drag no longer plays a role. The height of the boundary layer is variable but, at least in strong winds, the best estimate is that it is about 600m or 2000ft (References 1 and 2).

In wind tunnel tests, it is important to simulate the mean wind speed profile, the wind's turbulence intensity and the length scale of turbulence within the atmospheric boundary layer. Figure 1 shows the boundary layer wind tunnel at the Guelph laboratory of Rowan Williams Davies & Irwin Inc. The model to be tested is mounted near the centre of the 2.4m (8 ft.) diameter turntable, 13m (42 ft.) downwind of the entrance to the working section. All major features and structures within the radius covered by the turntable are modelled in detail thereby assuring their effect on the wind flows around the site being studied is accurately simulated. Upstream of the turntable the terrain roughness is modelled by generalized roughness distributed over the working section's floor. In addition, specially designed turbulence generators are installed at the start of the working section. By varying the floor roughness and turbulence generators the effects of various types of terrain roughness upwind of the turntable can be reproduced at model scale. A detailed explanation of these techniques is given in Reference 3.

In strong winds, the mean speed profile in the atmospheric boundary layer is found to be well represented by the power law expression:

$$U = U_g (Z/Z_g)^{\alpha}$$

where

U = mean wind speed
U_g = gradient wind speed (value of U at the top of the boundary layer)
Z = height above ground
Z_g = depth of boundary layer
α = constant.

The exponent, α varies with terrain roughness. The following are representative values:

Type of Terrain	α
Open country with some vegetation	0.14
Suburban areas	0.25
Heavily built city cores	0.33

Figure 2 shows wind speed profiles generated in the boundary layer wind tunnel and compares them with the above power law expression. The wind tunnel speed profile can be seen to follow the power law relation well for each type of the boundary layer.

The wind turbulence intensity may be quantified by defining it as the ratio u′/U where u′ = root-mean-square of the velocity fluctuations in the direction of the mean wind velocity. The turbulence intensity increases as the terrain roughness increases and is generally greater near to the ground. Figure 3 shows the measured turbulence intensities for each of the simulated atmospheric boundary layers described above. Some full scale data are included for comparison (obtained from Ref. 4).

The integral scale of the turbulence, which can be thought of as an average size of turbulence eddy, is on the order of 150m (500 ft.) high up in the planetary boundary layer but decreases significantly near to the ground. For a 1:400 scale model of the appropriate integral scale of the wind tunnel turbulence should therefore be about 0.375m (1.25 ft.) in the upper part of the boundary layer. One way of measuring the integral scale is to measure the power spectrum, S, of longitudinal turbulence and comparing it in non-dimensional form with the theoretical von Karman spectrum,

$$\frac{nS}{u'^2} = \frac{4\,(nL/U)}{[1 + 70.78\,(nL/U)^2]^{5/6}}$$

which has been found to agree well with full scale spectra obtained in high winds. The measured spectrum is plotted against nL/U, the value of L being adjusted until a best fit to the von Karman expression is obtained. This value of L is then the integral scale of the turbulence in the wind tunnel. Figure 4 shows a typical comparison between the measured spectrum in the wind tunnel and the von Karman spectrum, and indicates the equivalent full scale value of L obtained. It corresponds well to typical full scale values and the shape of the wind tunnel turbulence spectrum closely follows the von Karman curve.

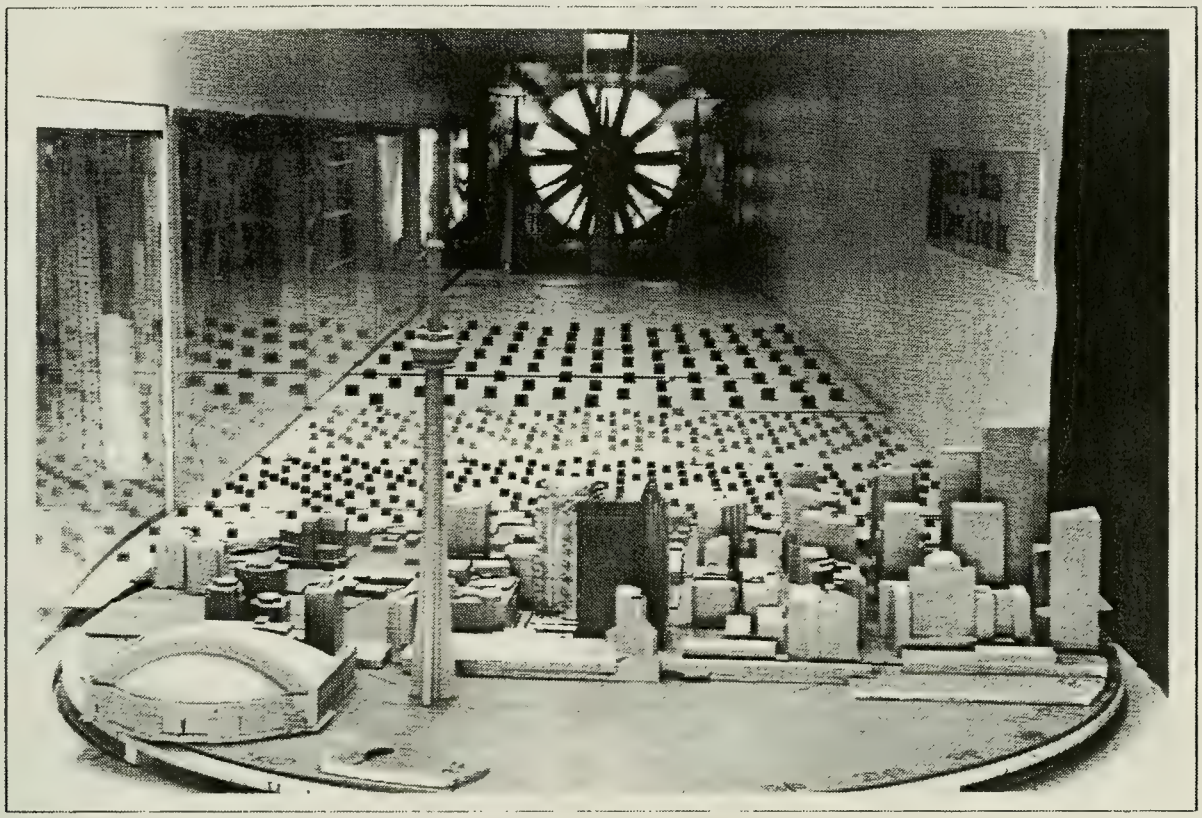
References

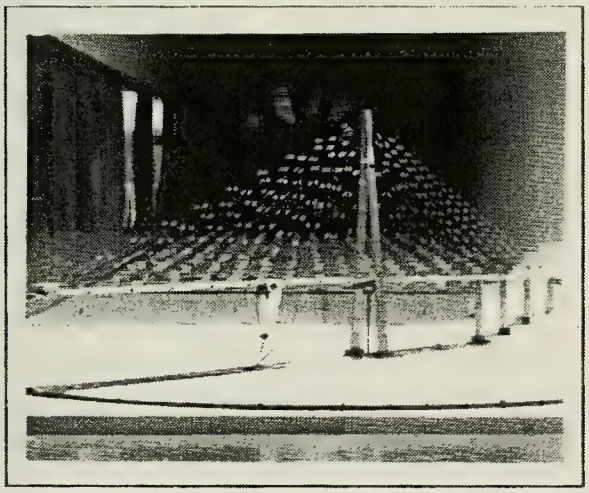
1. Counihan, J. — Adiabatic Atmospheric Boundary Layer: A Review of Data from the Period 1880-1972", Atmospheric Environment, V. 9, No. 10, pp. 871-905, 1975.

2. Snyder, W. H. — "Guideline for Fluid Modeling of Atmospheric Diffusion", U.S. Environmental Protection Agency, Report 600/8-81-009, 1981.

3. Irwin, P. A. — "Design and Use of Spires for Natural Wind Simulation", National Research Council of Canada, N.A.E. Report LTR-LA-233, 1979.

4. Engineering Sciences — "Characteristics of Atmospheric Turbulence Data Unit Near the Ground: Part III, Variations in Space and Time for Strong Winds," Engineering Sciences Data Item Number 750001, London, England, 1975.





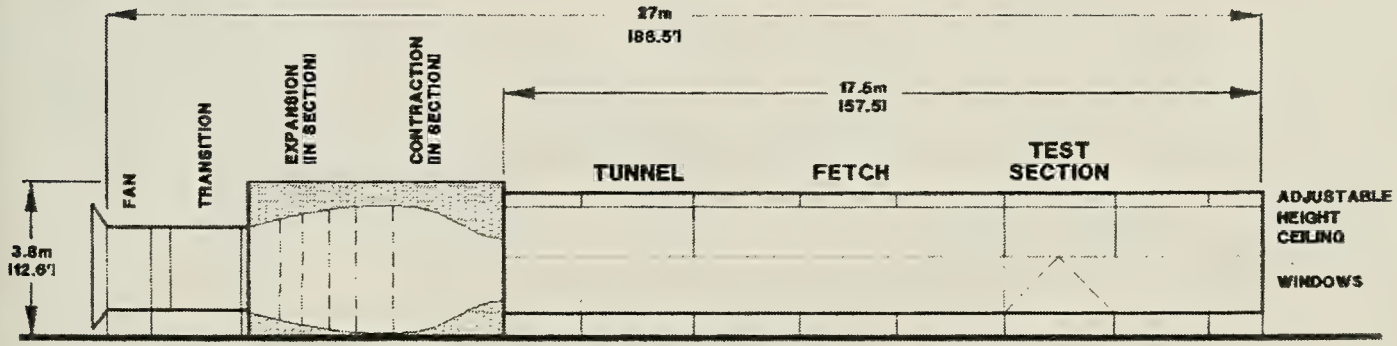
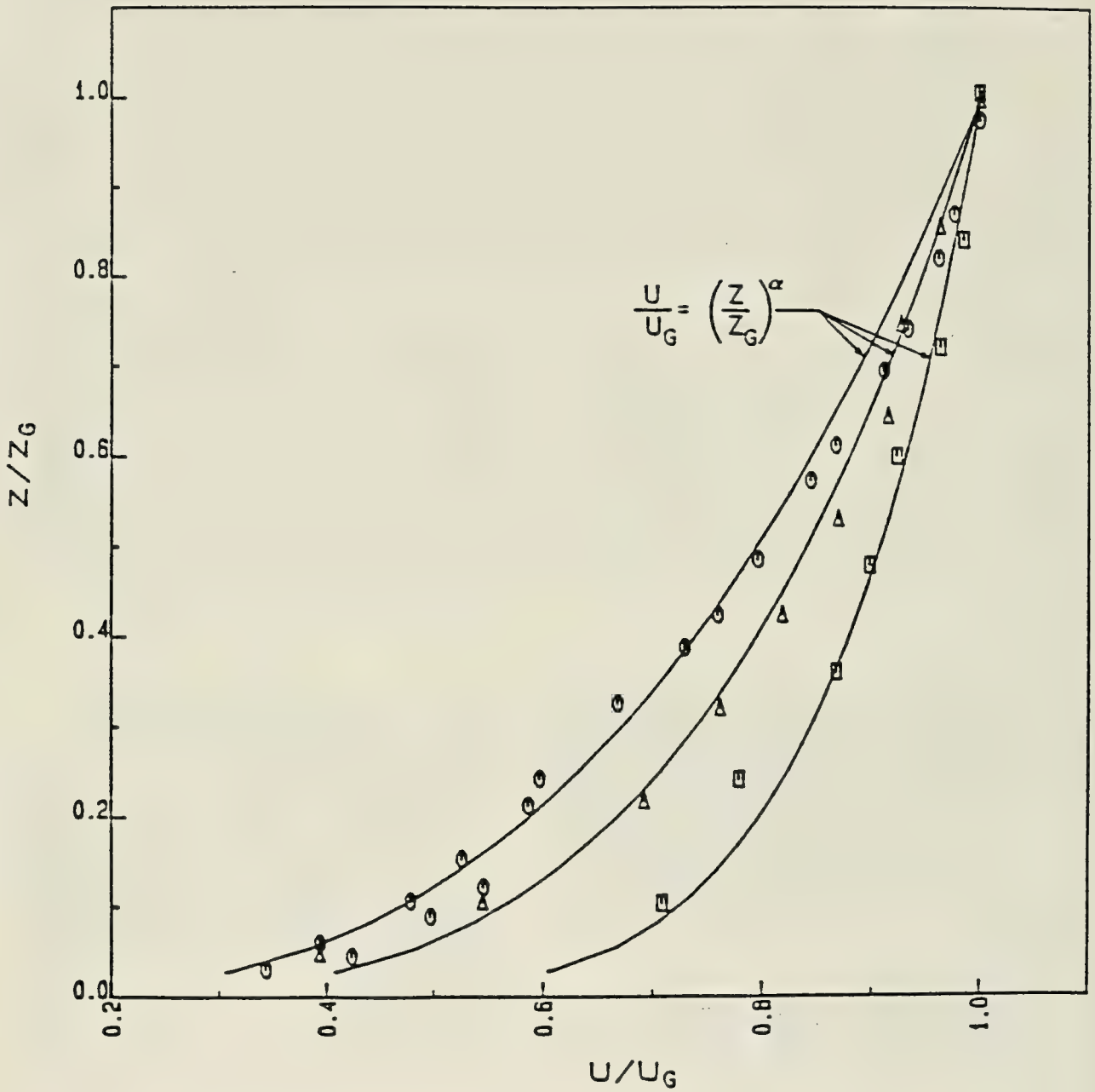
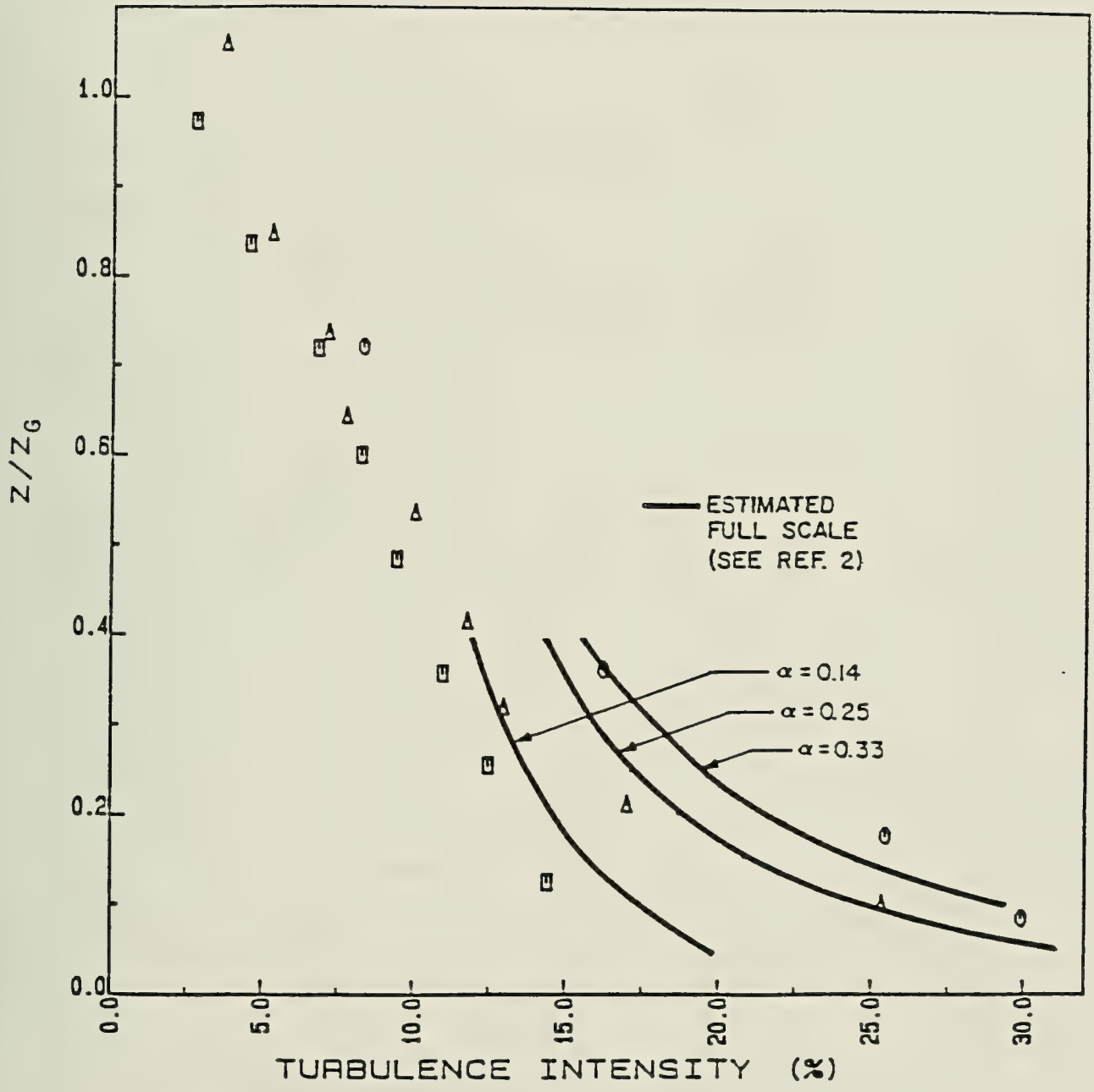


Figure 1: Guelph Boundary Layer Wind Tunnel Facility



SYMBOL	α	Z_G
○	.33	600m (2000ft)
△	.25	600m (2000ft)
□	.14	600m (2000ft)

Figure 2: Simulated Mean Wind Speed Profile



WIND SIMULATION DATA

SYMBOL	α	Z_G
⊙	.33	600m (2000 ft)
△	.25	600m (2000 ft)
□	.14	600m (2000 ft)

Figure 3: Simulated and Full Scale Longitudinal Turbulence Intensity Profiles

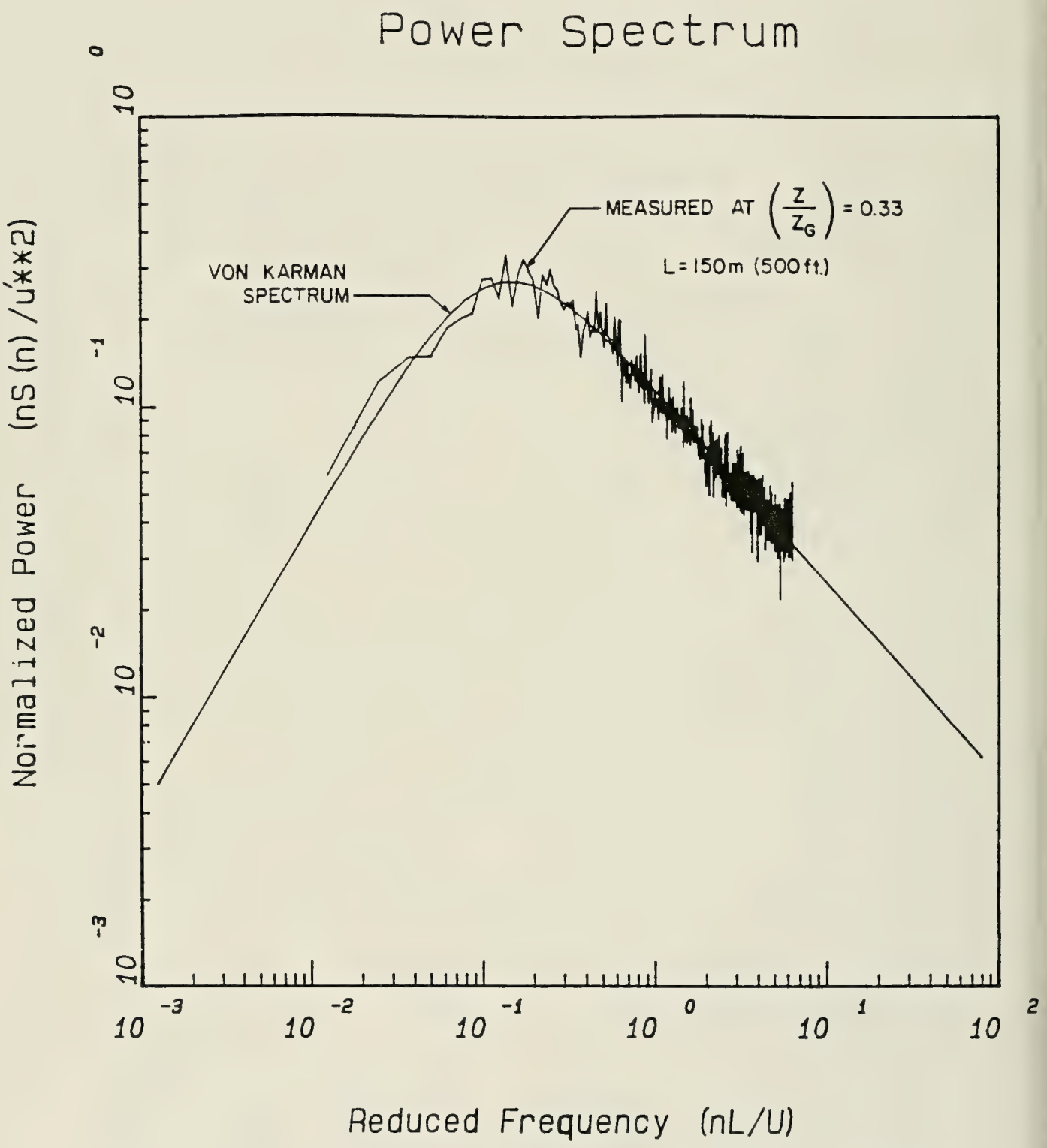


Figure 4: Typical Spectrum of the Longitudinal Wind Velocity Component Measured Over the Test Site for $\alpha = 0.33$

B. WATER FLUME WIND AND SNOW SIMULATOR

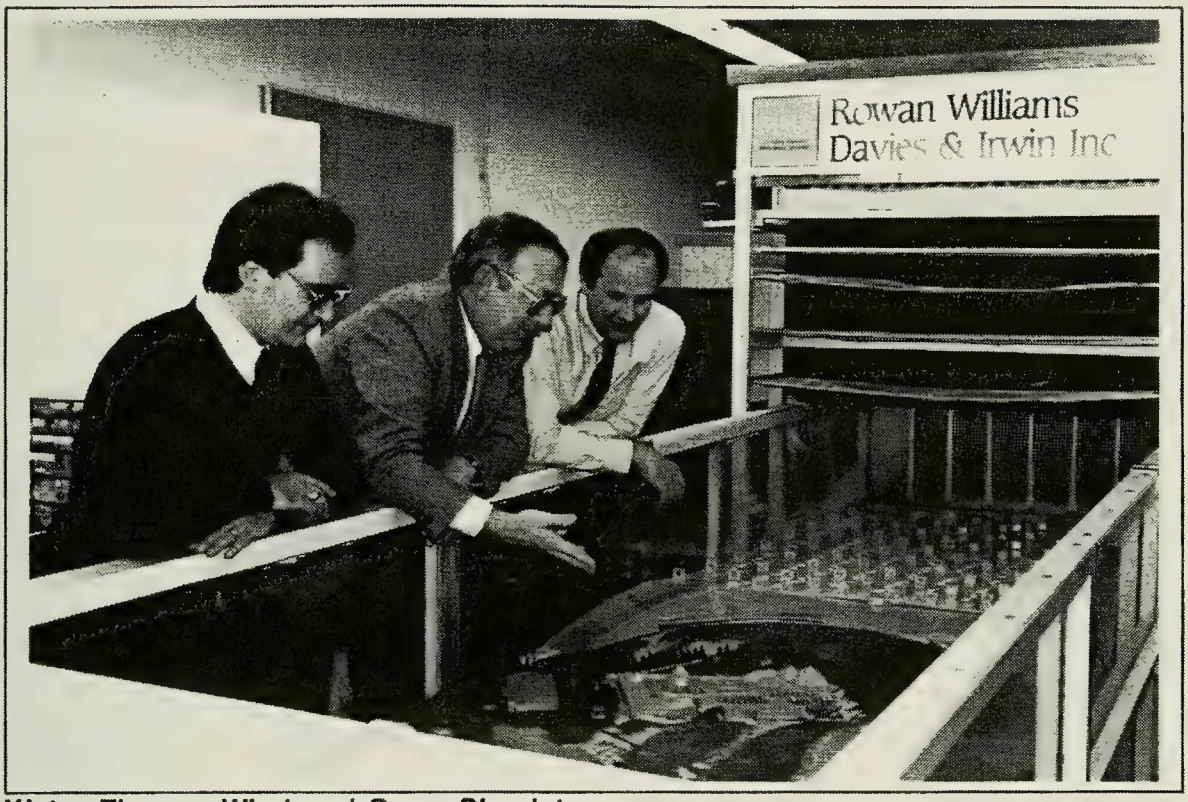
WATER FLUME WIND AND SNOW SIMULATOR

The water flume consists of a 1.2m wide, 40cm deep open channel through which water flows. A scaled model of the area to be studied, for either the effects of wind or drifting snow, is placed on the floor of the water channel and the water is allowed to flow over the model. The water flow can then be adjusted to simulate the atmospheric wind flow around the scaled model.

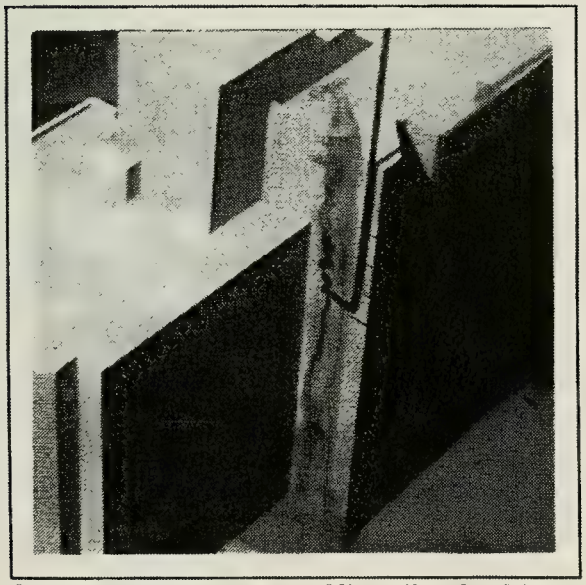
The water flow around the model can be easily visualized by introducing a coloured dye into the water. The good flow visualization properties of the water flume make it an ideal design tool. Personnel directly involved with the project design are able to clearly see the wind flows around their proposed project by participating in the study at our laboratory. This makes for an easy understanding of the wind and drifting snow problems. Also, as the models are easily accessible during the tests, the effects of rearranging the components of a project or the adding of control devices can be clearly observed and optimum solutions readily determined.

The method used to study the effects of drifting snow is to introduce a fine white silica sand into the water to represent the snow and the moving water carries and deposits snow. The wind speed at any point within the study area is determined by measuring the water speed at the point of interest on the model.

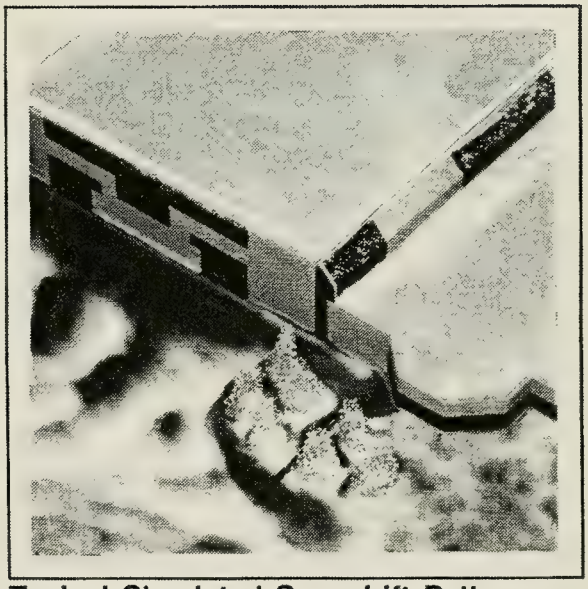
In addition to the study of wind and drifting snow, the water flume technique is suitable for the study of other windblown particles such as drifting sand, coal dust, etc.



Water Flume - Wind and Snow Simulator

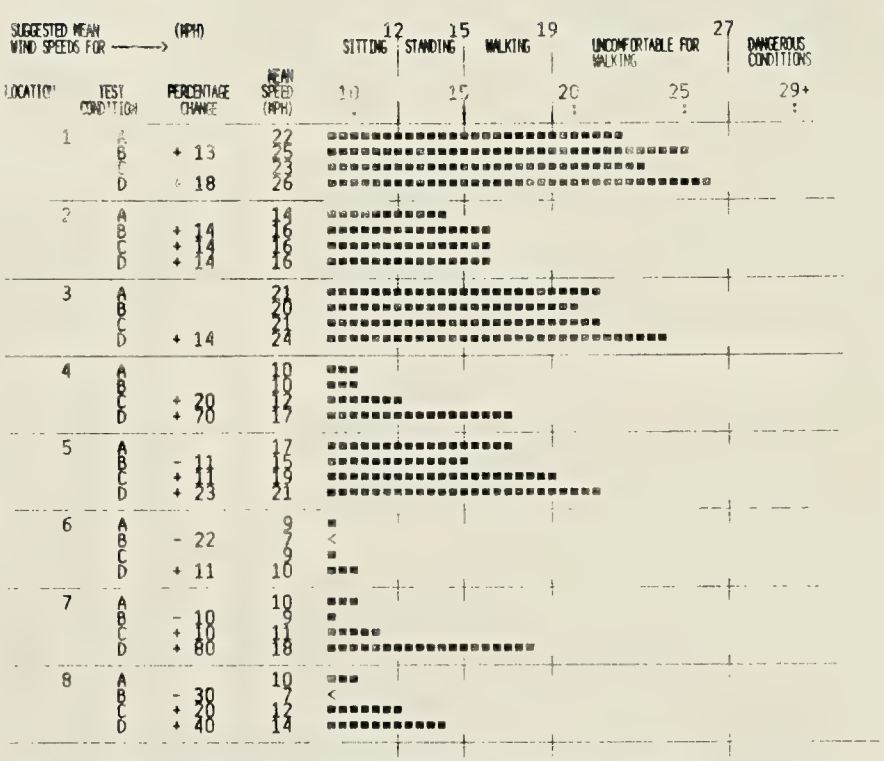


Simulated Wind Flow Visualized with Dye



Typical Simulated Snowdrift Patterns

C. PEDESTRIAN WIND COMFORT TABLES



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

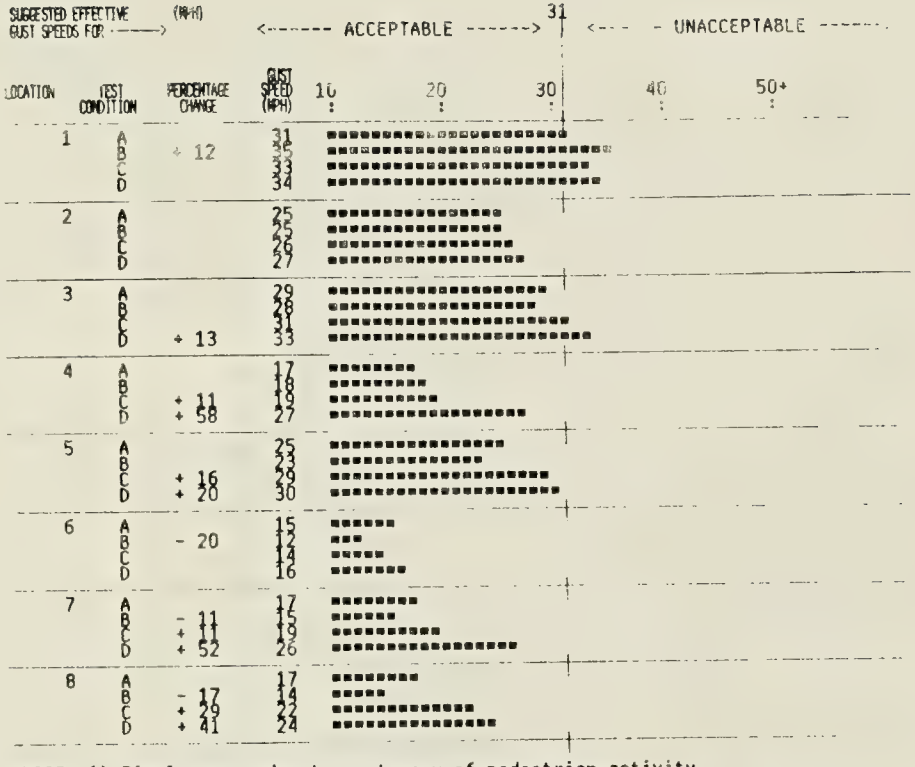
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C1

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SPRING MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C2

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SPRING EFFECTIVE GUST SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	SUGGESTED MEAN WIND SPEEDS FOR ——> (MPH) 10 : SITTING 12 | STANDING 15 | WALKING 19 | UNCOMFORTABLE FOR WALKING 27 | DANGEROUS CONDITIONS 29+ :
9	A		8	<
	B	+ 12	9	▪
	C	+ 25	10	▪▪▪
	D	+ 25	10	▪▪▪
10	A		10	▪▪▪
	B		10	▪▪▪
	C	+ 40	14	▪▪▪▪▪▪▪▪▪▪▪▪
	D	+ 80	18	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
11	A		10	▪▪▪
	B	+ 60	16	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
	C	+ 40	14	▪▪▪▪▪▪▪▪▪▪▪▪
	D	+ 70	17	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
12	A		9	▪
	B	+ 44	13	▪▪▪▪▪▪▪▪▪▪
	C	+ 66	15	▪▪▪▪▪▪▪▪▪▪▪▪▪▪
	D	+ 66	15	▪▪▪▪▪▪▪▪▪▪▪▪▪▪
13	A		11	▪▪▪▪▪
	B		12	▪▪▪▪▪▪▪▪
	C	+ 18	13	▪▪▪▪▪▪▪▪▪
	D	+ 45	16	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
14	A		10	▪▪▪
	B	+ 20	12	▪▪▪▪▪▪▪▪
	C	+ 40	14	▪▪▪▪▪▪▪▪▪▪▪▪
	D	+ 30	13	▪▪▪▪▪▪▪▪▪
15	A		15	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
	B	- 20	12	▪▪▪▪▪▪▪▪
	C		15	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
	D	+ 40	21	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
16	A		11	▪▪▪▪▪
*	B	+ 81	20	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
	C	+ 81	20	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
	D	+ 36	15	▪▪▪▪▪▪▪▪▪▪▪▪▪▪

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C3
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SPRING MEAN WIND SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	SUGGESTED EFFECTIVE GUST SPEEDS FOR ——> (MPH) <------ ACCEPTABLE ------> 31 | <------ UNACCEPTABLE ------> 10 : 20 : 30 : 40 : 50+ :
9	A		14	▪▪▪▪▪
	B	+ 14	16	▪▪▪▪▪▪▪
	C	+ 28	18	▪▪▪▪▪▪▪▪▪
	D	+ 28	18	▪▪▪▪▪▪▪▪▪
10	A		16	▪▪▪▪▪▪▪▪
	B		17	▪▪▪▪▪▪▪▪▪
	C	+ 43	23	▪▪▪▪▪▪▪▪▪▪▪▪▪
	D	+ 68	27	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
11	A		17	▪▪▪▪▪▪▪▪▪
	B	+ 47	25	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
	C	+ 35	23	▪▪▪▪▪▪▪▪▪▪▪▪▪
	D	+ 47	25	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
12	A		19	▪▪▪▪▪▪▪▪▪▪▪
	B		20	▪▪▪▪▪▪▪▪▪▪▪▪
	C	+ 42	27	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
	D	+ 36	26	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
13	A		18	▪▪▪▪▪▪▪▪▪▪
	B	+ 11	20	▪▪▪▪▪▪▪▪▪▪▪▪
	C	+ 33	24	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
	D	+ 27	23	▪▪▪▪▪▪▪▪▪▪▪▪▪
14	A		17	▪▪▪▪▪▪▪▪▪
	B	+ 17	20	▪▪▪▪▪▪▪▪▪▪▪▪
	C	+ 41	24	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
	D	+ 29	22	▪▪▪▪▪▪▪▪▪▪▪▪▪
15	A		30	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
	B	- 36	19	▪▪▪▪▪▪▪▪▪▪▪
	C	- 16	25	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
	D		28	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
16	A		16	▪▪▪▪▪▪▪▪
*	B	+ 81	29	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
	C	+ 81	29	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪
	D	+ 31	21	▪▪▪▪▪▪▪▪▪▪▪▪

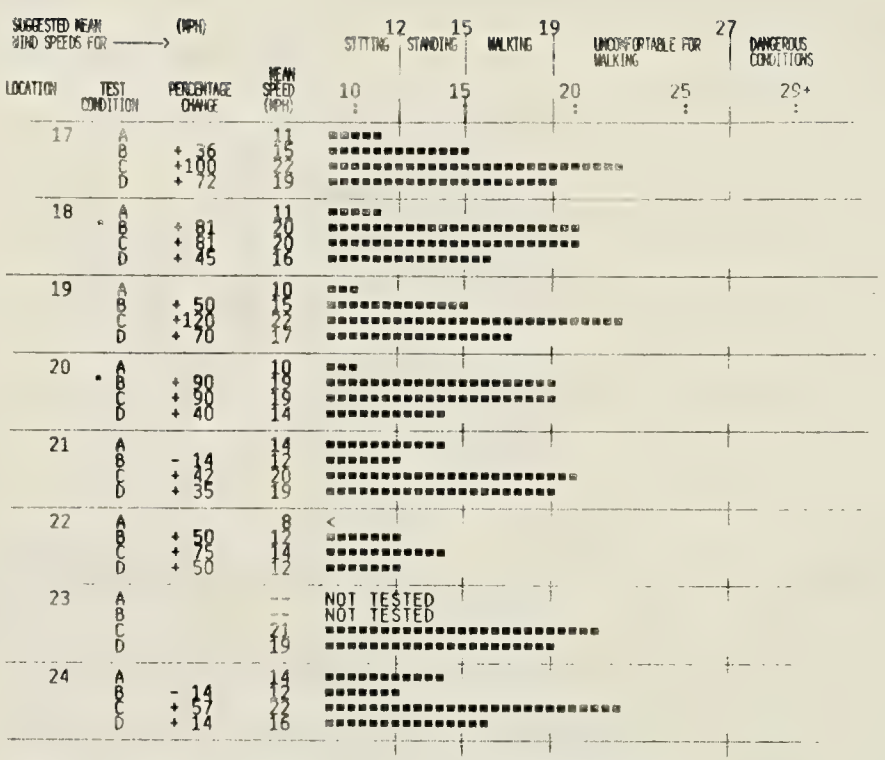
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C4
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SPRING EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

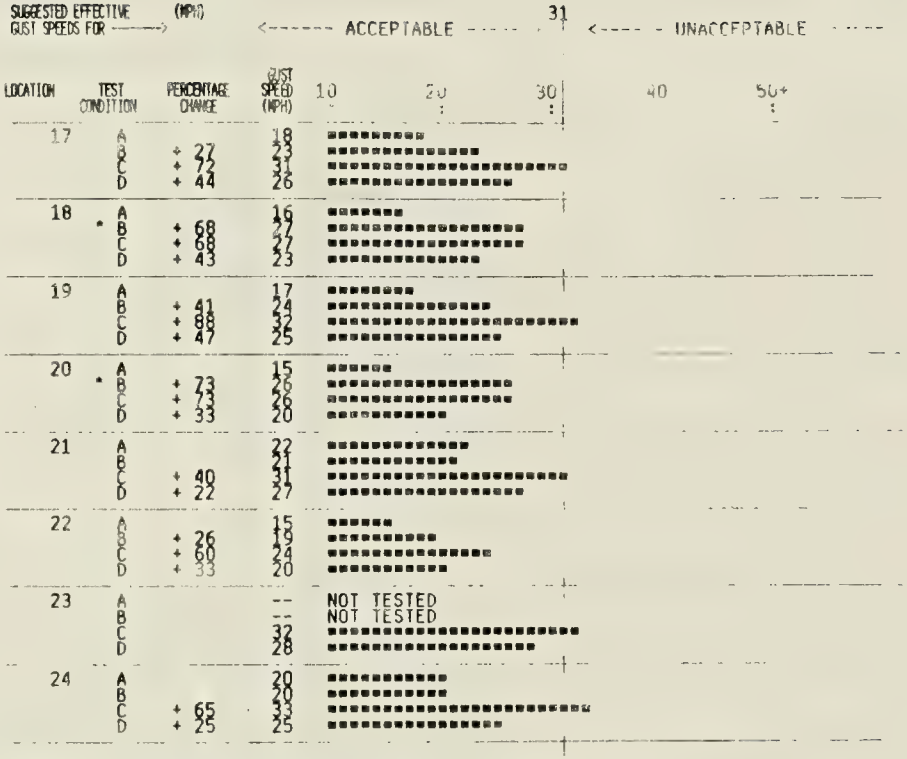
A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C5

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SPRING MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

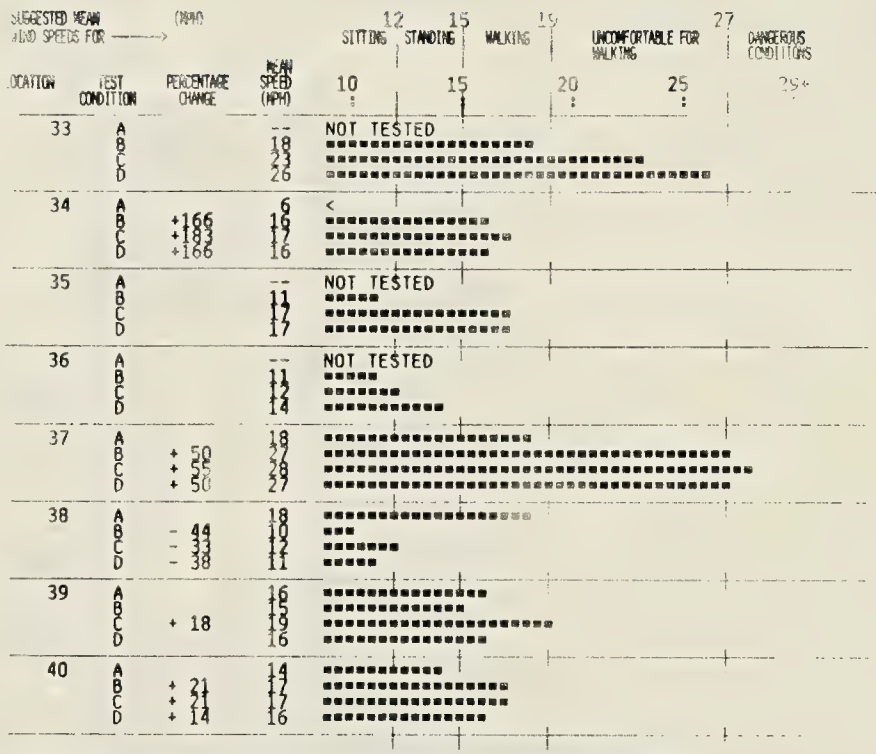
TABLE WIND-C6

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SPRING EFFECTIVE GUST SPEEDS

SUGGESTED MEAN WIND SPEEDS FOR ——→ (MPH)

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	SITTING (12)	STANDING (15)	WALKING (19)	UNCOMFORTABLE FOR WALKING (27)	DANGEROUS CONDITIONS
				10 :	15 :	20 :	25 :	29+ :
25	A		12	■■■■■■■				
	* B	+ 41	17	■■■■■■■■■■■■■■■■				
	C	+ 41	17	■■■■■■■■■■■■■■■■				
	D	+ 16	14	■■■■■■■■■■■■				
26	A		10	■■■				
	B	+ 30	13	■■■■■■■■■■				
	C	+110	21	■■■■■■■■■■■■■■■■■■■■■■■				
	D	+ 90	19	■■■■■■■■■■■■■■■■■■■■				
27	A		11	■■■■■■■■■■■				
	B		12	■■■■■■■■■■■■				
	C	+118	24	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■				
	D	+109	23	■■■■■■■■■■■■■■■■■■■■■■■■■■■				
28	A		17	■■■■■■■■■■■■■■■■■				
	* B	+ 29	22	■■■■■■■■■■■■■■■■■■■■■■■■				
	C	+ 29	22	■■■■■■■■■■■■■■■■■■■■■■■■				
	D	+ 29	22	■■■■■■■■■■■■■■■■■■■■■■■■				
29	A		10	■■■				
	B	+ 20	12	■■■■■■■				
	C	+140	24	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■				
	D	+190	29	■■■■■■■■■■■■■■■■■■■



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

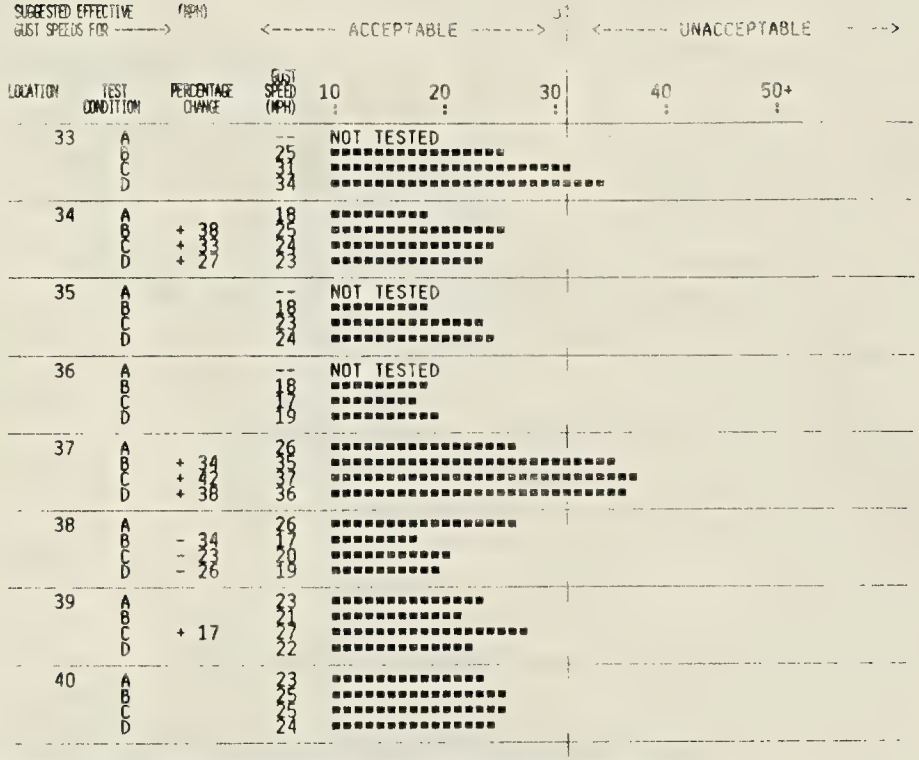
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C9

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SPRING MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

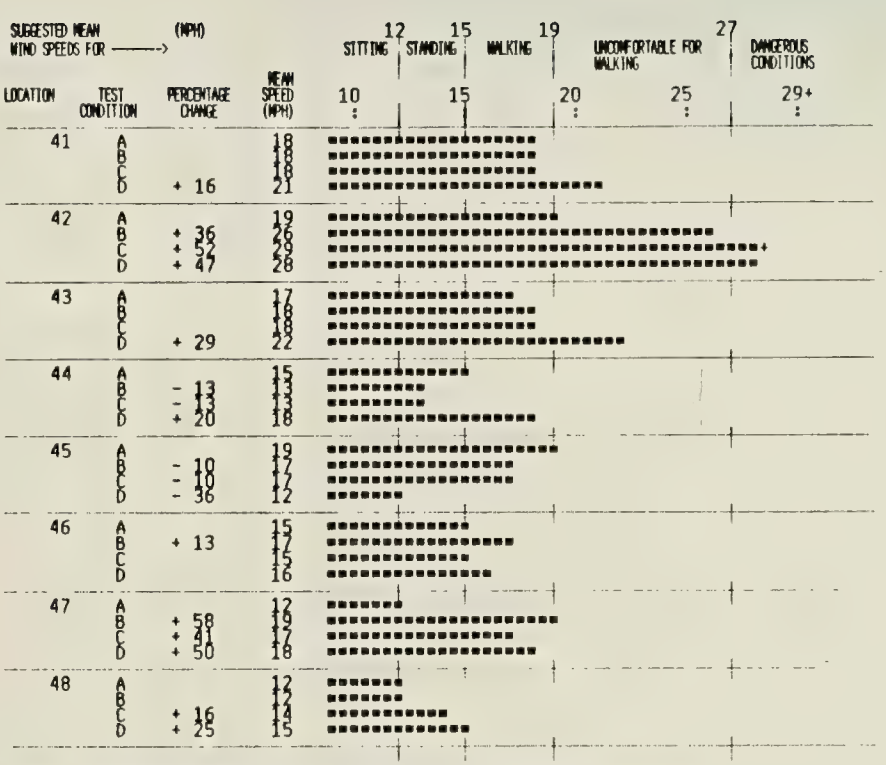
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C10

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SPRING EFFECTIVE GUST SPEEDS



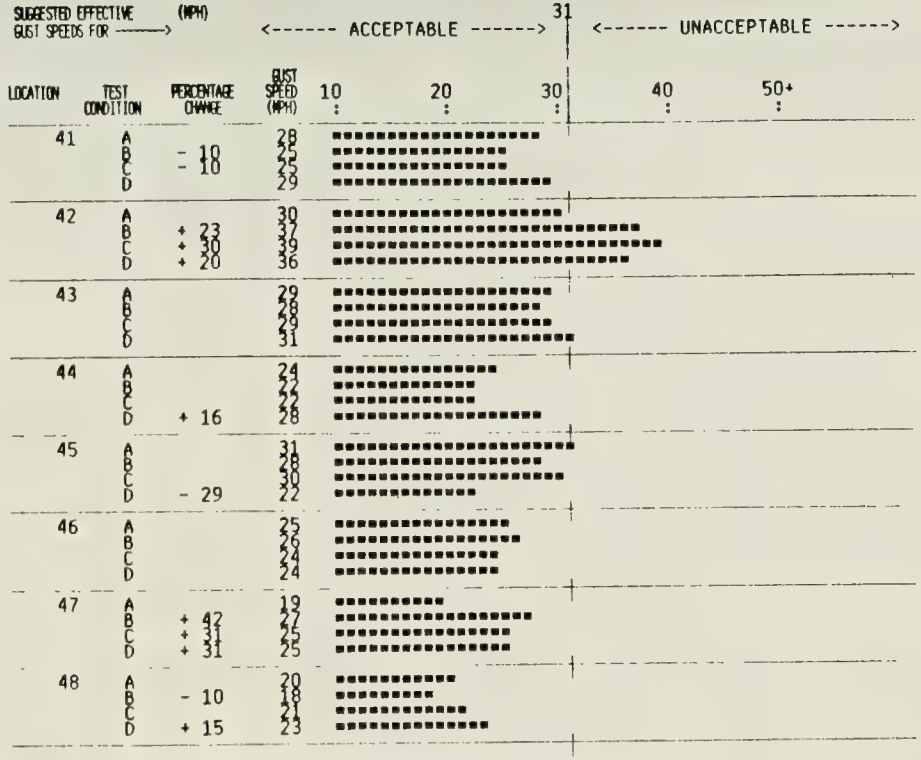
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C11
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SPRING MEAN WIND SPEEDS



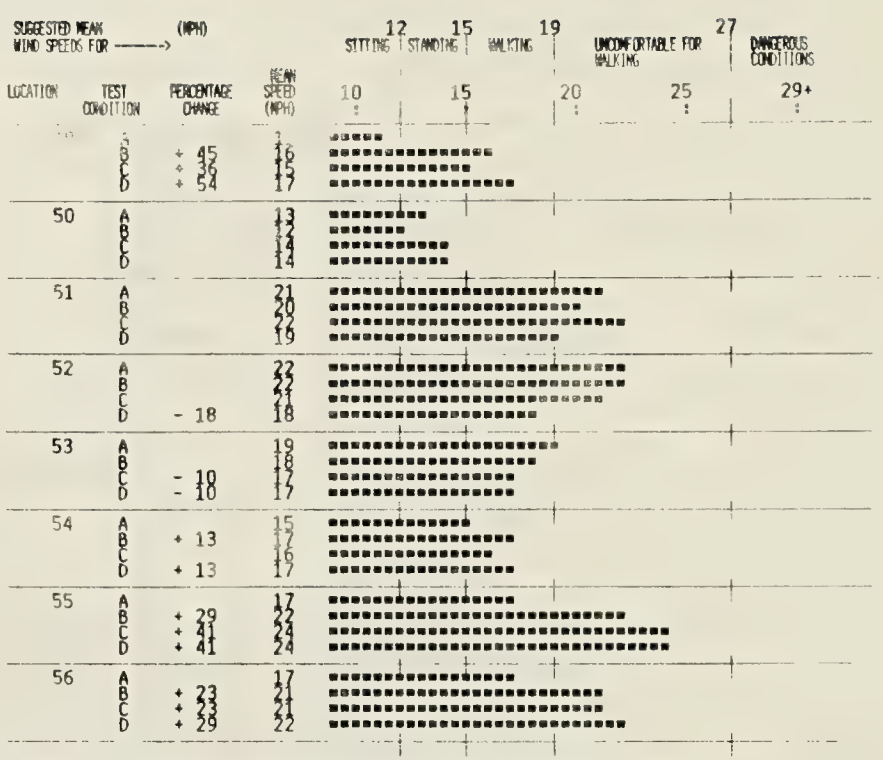
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C12
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SPRING EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C13

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SPRING MEAN WIND SPEEDS

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C14

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SPRING EFFECTIVE GUST SPEEDS

SUGGESTED MEAN WIND SPEEDS FOR ——→ (MPH)

				12	15	19	27	
				SITTING	STANDING	WALKING	UNCOMFORTABLE FOR WALKING	DANGEROUS CONDITIONS
LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	10 :	15 :	20 :	25 :	29+ :
57	A		16	■■■■■■■■■■■■■■■				
	B	+ 43	23	■■■■■■■■■■■■■■■■■■■■■■■■				
	C	+ 37	22	■■■■■■■■■■■■■■■■■■■■■■■				
	D	+ 43	23	■■■■■■■■■■■■■■■■■■■■■■■■				
58	A		17	■■■■■■■■■■■■■■■■				
	B	+ 17	20	■■■■■■■■■■■■■■■■■■■■				
	C	+ 23	21	■■■■■■■■■■■■■■■■■■■■■				
	D	+ 11	19	■■■■■■■■■■■■■■■■■■■				
59	A		18	■■■■■■■■■■■■■■■■■				
	B	- 11	16	■■■■■■■■■■■■■■■				
	C		17	■■■■■■■■■■■■■■■■				
	D		17	■■■■■■■■■■■■■■■■				
60	A		13	■■■■■■■■■				
	B	+ 53	20	■■■■■■■■■■■■■■■■■■■■				
	C	+ 30	17	■■■■■■■■■■■■■■■■				
	D	+ 23	16	■■■■■■■■■■■■■■■				
61	* A		17	■■■■■■■■■■■■■■■■				
	B		17	■■■■■■■■■■■■■■■■				
	C		17	■■■■■■■■■■■■■■■■				
	D		16	■■■■■■■■■■■■■■■				
62	* A		19	■■■■■■■■■■■■■■■■■■				
	B	- 10	17	■■■■■■■■■■■■■■■■				
	C	- 10	17	■■■■■■■■■■■■■■■■				
	D	- 15	16	■■■■■■■■■■■■■■■				
63	A		18	■■■■■■■■■■■■■■■■■				
	B		19	■■■■■■■■■■■■■■■■■■				
	C		18	■■■■■■■■■■■■■■■■■				
	D	- 27	13	■■■■■■■■■				
64	A		12	■■■■■■■				
	B		12	■■■■■■■				
	C		12	■■■■■■■				
	D	+ 33	16	■■■■■■■■■■■■■■■				

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C15
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SPRING MEAN WIND SPEEDS

SUGGESTED EFFECTIVE GUST SPEEDS FOR ——→ (MPH)

				<------ ACCEPTABLE ------>	31	<------ UNACCEPTABLE ------>	
LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	10 :	20 :	30 :	40 :	50+ :
57	A		26	■■■■■■■■■■■■■■■■■■				
	B	+ 23	32	■■■■■■■■■■■■■■■■■■■■■■■				
	C	+ 23	32	■■■■■■■■■■■■■■■■■■■■■■■				
	D	+ 26	33	■■■■■■■■■■■■■■■■■■■■■■■■				
58	A		26	■■■■■■■■■■■■■■■■■■				
	B		28	■■■■■■■■■■■■■■■■■■■■				
	C	+ 11	29	■■■■■■■■■■■■■■■■■■■■				
	D		28	■■■■■■■■■■■■■■■■■■■■				
59	A		28	■■■■■■■■■■■■■■■■■■■■				
	B	- 17	23	■■■■■■■■■■■■■■■■				
	C		26	■■■■■■■■■■■■■■■■■■■				
	D	- 10	25	■■■■■■■■■■■■■■■■■				
60	A		23	■■■■■■■■■■■■■■■■				
	B	+ 34	31	■■■■■■■■■■■■■■■■■■■■■■				
	C	+ 21	28	■■■■■■■■■■■■■■■■■■■■				
	D	+ 13	26	■■■■■■■■■■■■■■■■■■				
61	* A		27	■■■■■■■■■■■■■■■■■■■				
	B		28	■■■■■■■■■■■■■■■■■■■■				
	C		28	■■■■■■■■■■■■■■■■■■■■				
	D		25	■■■■■■■■■■■■■■■■■				
62	* A		30	■■■■■■■■■■■■■■■■■■■■■				
	B	- 16	25	■■■■■■■■■■■■■■■■■				
	C	- 16	25	■■■■■■■■■■■■■■■■■				
	D	- 16	25	■■■■■■■■■■■■■■■■■				
63	A		24	■■■■■■■■■■■■■■■■				
	B		24	■■■■■■■■■■■■■■■■				
	C		25	■■■■■■■■■■■■■■■■■				
	D		22	■■■■■■■■■■■■■■■				
64	A		20	■■■■■■■■■■■■■				
	B		18	■■■■■■■■■■■■				
	C		18	■■■■■■■■■■■■				
	D	+ 15	23	■■■■■■■■■■■■■■■■				

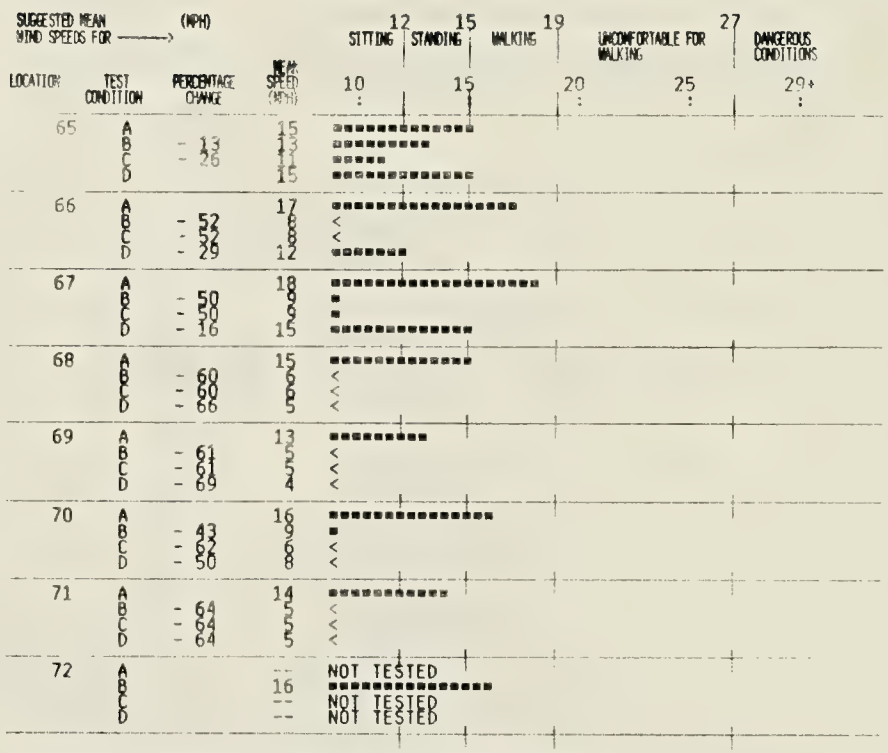
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C16
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SPRING EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

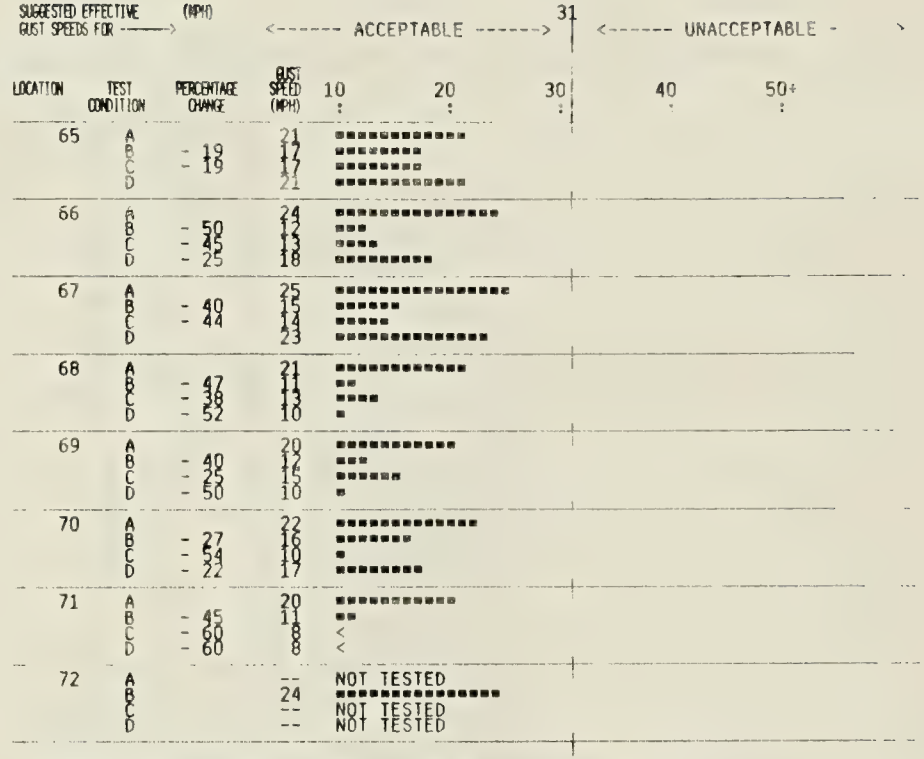
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C17

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SPRING MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C18

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SPRING EFFECTIVE GUST SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	SUGGESTED MEAN WIND SPEEDS FOR ——— (MPH) 12 SITTING 15 STANDING 19 WALKING 27 UNCOMFORTABLE FOR WALKING DANGEROUS CONDITIONS 10 15 20 25 29+
73	A		--	NOT TESTED
	B		16	■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
74	A		--	NOT TESTED
	B		17	■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
75	A		--	NOT TESTED
	B		23	■■■■■■■■■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
76	A		--	NOT TESTED
	B		10	■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
77	A		--	NOT TESTED
	B		9	■
	C		--	NOT TESTED
	D		--	NOT TESTED
78	A		--	NOT TESTED
	B		11	■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
79	A		--	NOT TESTED
	B		20	■■■■■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C19
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SPRING MEAN WIND SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	SUGGESTED EFFECTIVE GUST SPEEDS FOR ——— (MPH) <------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------> 10 20 30 40 50+
73	A		--	NOT TESTED
	B		24	■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
74	A		--	NOT TESTED
	B		26	■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
75	A		--	NOT TESTED
	B		32	■■■■■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
76	A		--	NOT TESTED
	B		19	■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
77	A		--	NOT TESTED
	B		16	■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
78	A		--	NOT TESTED
	B		20	■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
79	A		--	NOT TESTED
	B		27	■■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED

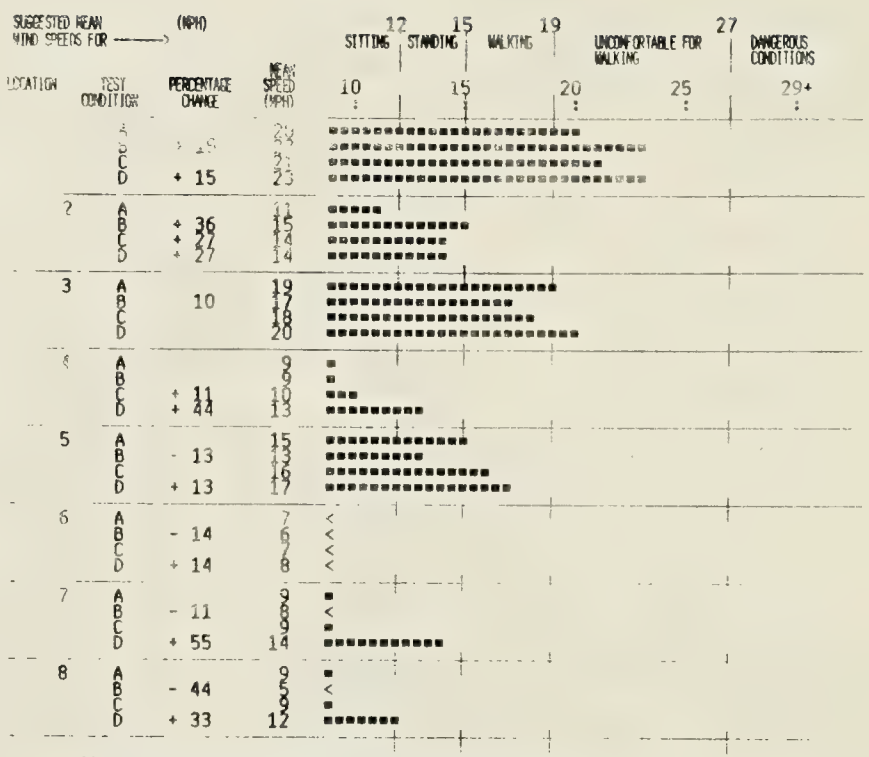
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C20
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SPRING EFFECTIVE GUST SPEEDS



LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)
	A		22
	B	+ 45	32
	C		21
	D	+ 15	23
2	A		11
	B	+ 36	15
	C	+ 27	14
	D	+ 27	14
3	A		19
	B	10	17
	C		18
	D		20
4	A		9
	B		9
	C	+ 11	10
	D	+ 44	13
5	A		15
	B	- 13	13
	C		16
	D	+ 13	17
6	A		7
	B	- 14	6
	C		7
	D	+ 14	8
7	A		9
	B	- 11	8
	C		9
	D	+ 55	14
8	A		9
	B	- 44	5
	C		9
	D	+ 33	12

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A
3) Wind speeds are for a 1% probability.

TEST CONDITION

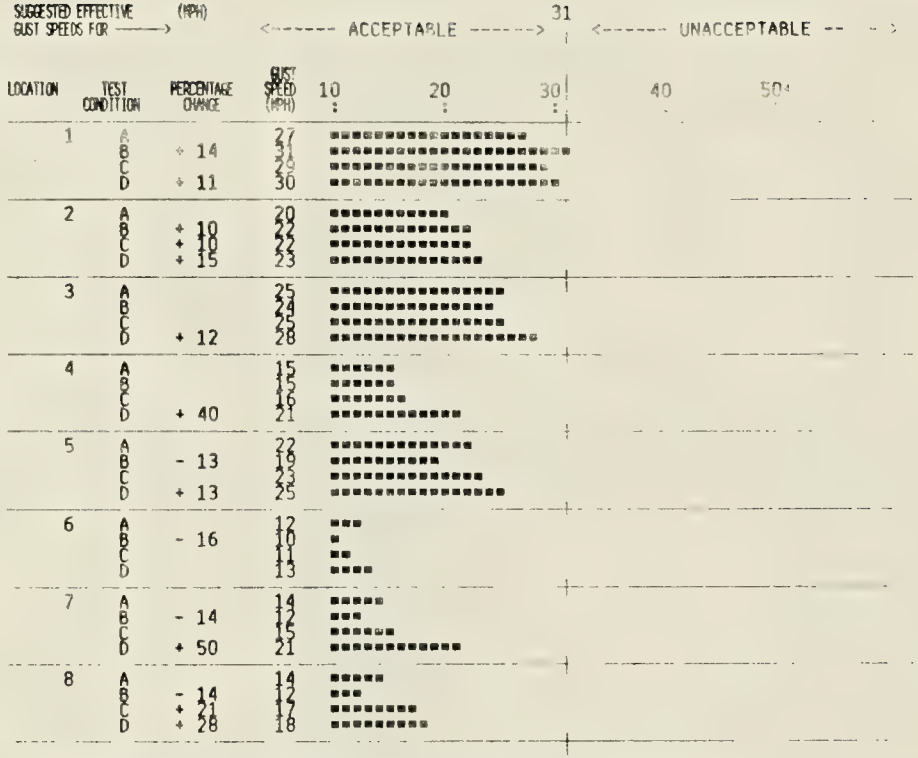
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C21

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER MEAN WIND SPEEDS



LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)
1	A		27
	B	+ 14	31
	C		29
	D	+ 11	30
2	A		20
	B	+ 10	22
	C	+ 10	22
	D	+ 15	23
3	A		25
	B		24
	C		25
	D	+ 12	28
4	A		15
	B		15
	C		16
	D	+ 40	21
5	A		22
	B	- 13	19
	C		23
	D	+ 13	25
6	A		12
	B	- 16	10
	C		11
	D		13
7	A		14
	B	- 14	12
	C		15
	D	+ 50	21
8	A		14
	B	- 14	12
	C	+ 21	17
	D	+ 28	18

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C22

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER EFFECTIVE GUST SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	SUGGESTED MEAN WIND SPEEDS FOR ——— (MPH): SITTING 12, STANDING 15, WALKING 19, UNCOMFORTABLE FOR WALKING 27, DANGEROUS CONDITIONS
				10 : 15 : 20 : 25 : 29+ :
9	A		7	<
	B		7	<
	C	+ 14	8	<
	D	+ 14	8	<
10	A		8	<
	B		8	<
	C	+ 25	10	■■■
	D	+ 62	13	■■■■■■■■■
11	A		8	<
	B	+ 50	12	■■■■■■■
	C	+ 37	11	■■■■■
	D	+ 75	14	■■■■■■■■■■■
12	A		7	<
	B	+ 42	10	■■■
	C	+ 71	12	■■■■■■■
	D	+ 71	12	■■■■■■■
13	A		9	■
	B	+ 11	10	■■■
	C	+ 11	10	■■■
	D	+ 33	12	■■■■■■■
14	A		8	<
	B	+ 12	9	■
	C	+ 37	11	■■■■■
	D	+ 37	11	■■■■■
15	A		12	■■■■■■■
	B	- 25	9	■
	C		12	■■■■■■■
	D	+ 41	17	■■■■■■■■■■■■■■■■■
16 *	A		9	■
	B	+ 66	15	■■■■■■■■■■■■
	C	+ 66	15	■■■■■■■■■■■■
	D	+ 33	12	■■■■■■■

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C23
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SUMMER MEAN WIND SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	SUGGESTED EFFECTIVE GUST SPEEDS FOR ——— (MPH): <------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------>
				10 : 20 : 30 : 40 : 50+ :
9	A		12	■■■
	B		12	■■■
	C	+ 16	14	■■■■■
	D	+ 16	14	■■■■■
10	A		13	■■■■
	B		14	■■■■■
	C	+ 38	18	■■■■■■■■■
	D	+ 61	21	■■■■■■■■■■■■
11	A		14	■■■■■
	B	+ 35	19	■■■■■■■■■■
	C	+ 28	18	■■■■■■■■■
	D	+ 42	20	■■■■■■■■■■■
12	A		14	■■■■■
	B	+ 14	16	■■■■■■■
	C	+ 42	20	■■■■■■■■■■■
	D	+ 42	20	■■■■■■■■■■■
13	A		15	■■■■■■
	B		16	■■■■■■■
	C	+ 20	18	■■■■■■■■■
	D	+ 20	18	■■■■■■■■■
14	A		14	■■■■■
	B		15	■■■■■■
	C	+ 28	18	■■■■■■■■■
	D	+ 21	17	■■■■■■■■
15	A		21	■■■■■■■■■■■■
	B	- 23	16	■■■■■■■
	C		18	■■■■■■■■■
	D		22	■■■■■■■■■■■■■
16 *	A		12	■■■
	B	+ 91	23	■■■■■■■■■■■■■■
	C	+ 91	23	■■■■■■■■■■■■■■
	D	+ 41	17	■■■■■■■■

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C24
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SUMMER EFFECTIVE GUST SPEEDS

SUGGESTED MEAN WIND SPEEDS FOR ——→ (MPH)

12 SITTING | 15 STANDING | 19 WALKING | 27 UNCOMFORTABLE FOR WALKING | DANGEROUS CONDITIONS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	10	15	20	25	29+
17	A		9	■				
	B	+ 22	11	■■■■■				
	C	+ 88	17	■■■■■■■■■■■■■■■■■				
	D	+ 55	14	■■■■■■■■■■				
18 *	A		9	■				
	B	+ 66	15	■■■■■■■■■■■■				
	C	+ 66	15	■■■■■■■■■■■■				
	D	+ 44	13	■■■■■■■■■				
19	A		8	<				
	B	+ 37	11	■■■■■				
	C	+112	17	■■■■■■■■■■■■■■■■■				
	D	+ 62	13	■■■■■■■■■				
20 *	A		8	<				
	B	+ 75	14	■■■■■■■■■■■				
	C	+ 75	14	■■■■■■■■■■■				
	D	+ 37	11	■■■■■				
21	A		11	■■■■■				
	B	- 18	6	■				
	C	+ 36	15	■■■■■■■■■■■■				
	D	+ 27	14	■■■■■■■■■■■				
22	A		7	<				
	B	+ 28	9	■				
	C	+ 57	11	■■■■■				
	D	+ 28	9	■				
23	A			NOT TESTED				
	B			NOT TESTED				
	C		16	■■■■■■■■■■■■■■■				
	D		14	■■■■■■■■■■■				
24	A		12	■■■■■■■■				
	B	- 25	9	■				
	C	+ 41	17	■■■■■■■■■■■■■■■■■				
	D		12	■■■■■■■				

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C25

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER MEAN WIND SPEEDS

SUGGESTED EFFECTIVE GUST SPEEDS FOR ——→ (MPH)

<------ ACCEPTABLE ------> 31 <- - - UNACCEPTABLE - - ->

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	10	20	30	40	50+
17	A		14	■■■■■				
	B	+ 21	17	■■■■■■■■				
	C	+ 71	24	■■■■■■■■■■■■■■■				
	D	+ 42	20	■■■■■■■■■■■■				
18 *	A		13	■■■■				
	B	+ 61	21	■■■■■■■■■■■■■				
	C	+ 61	21	■■■■■■■■■■■■■				
	D	+ 38	18	■■■■■■■■■				
19	A		13	■■■■				
	B	+ 38	18	■■■■■■■■■				
	C	+ 92	25	■■■■■■■■■■■■■■■■				
	D	+ 46	19	■■■■■■■■■■				
20 *	A		12	■■■				
	B	+ 66	20	■■■■■■■■■■■■				
	C	+ 66	20	■■■■■■■■■■■■				
	D	+ 33	16	■■■■■■■				
21	A		17	■■■■■■■■				
	B		16	■■■■■■■■				
	C	+ 41	24	■■■■■■■■■■■■■■■■				
	D	+ 23	21	■■■■■■■■■■■■■				
22	A		11	■■				
	B	+ 27	14	■■■■■				
	C	+ 63	18	■■■■■■■■■				
	D	+ 36	15	■■■■■■				
23	A		--	NOT TESTED				
	B		--	NOT TESTED				
	C		25	■■■■■■■■■■■■■■■■				
	D		22	■■■■■■■■■■■■■■				
24	A		17	■■■■■■■■				
	B		16	■■■■■■■■				
	C	+ 47	25	■■■■■■■■■■■■■■■■				
	D		18	■■■■■■■■■				

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C26

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER EFFECTIVE GUST SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	SUGGESTED MEAN WIND SPEEDS FOR ——→ (MPH) 10 12 15 19 27 — SITTING | STANDING | WALKING | UNCOMFORTABLE FOR WALKING | DANGEROUS CONDITIONS — 10 15 20 25 29+
25	A		12	■■■■■■■
*	B	+ 16	14	■■■■■■■■■■■
	C	+ 16	14	■■■■■■■■■■■
	D		12	■■■■■■■
26	A		8	<
	B	+ 25	10	■■■
	C	+ 87	15	■■■■■■■■■■■■■
	D	+ 87	15	■■■■■■■■■■■■■
27	A		9	■
	B		9	■
	C	+111	19	■■■■■■■■■■■■■■■■■■■
	D	+100	18	■■■■■■■■■■■■■■■■■
28	A		14	■■■■■■■■■■■
*	B	+ 28	18	■■■■■■■■■■■■■■■■■
	C	+ 28	18	■■■■■■■■■■■■■■■■■
	D	+ 28	18	■■■■■■■■■■■■■■■■■
29	A		8	<
	B	+ 12	9	■
	C	+137	19	■■■■■■■■■■■■■■■■■■■
	D	+187	23	■■■■■■■■■■■■■■■■■■■■■■■
30	A		11	■■■■■
	B	- 27	8	<
	C	+ 36	15	■■■■■■■■■■■■■
	D	+ 18	13	■■■■■■■■
31	A		12	■■■■■■■
	B		11	■■■■■
	C	+ 25	15	■■■■■■■■■■■■■
	D	+ 50	18	■■■■■■■■■■■■■■■■■■
32	A		10	■■■
	B	- 20	8	<
	C	+ 40	14	■■■■■■■■■■■
	D	+ 60	16	■■■■■■■■■■■■■■■

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C27
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SUMMER MEAN WIND SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	SUGGESTED EFFECTIVE GUST SPEEDS FOR ——→ (MPH) <------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------> 10 20 30 40 50+
25	A		16	■■■■■■■■
*	B	+ 31	21	■■■■■■■■■■■■
	C	+ 31	21	■■■■■■■■■■■■
	D		17	■■■■■■■■■
26	A		12	■■■
	B	+ 33	16	■■■■■■■■
	C	+ 91	23	■■■■■■■■■■■■■■■
	D	+ 83	22	■■■■■■■■■■■■■■
27	A		14	■■■■■
	B	+ 14	16	■■■■■■■■
	C	+100	28	■■■■■■■■■■■■■■■■■■■■
	D	+ 85	26	■■■■■■■■■■■■■■■■■■
28	A		21	■■■■■■■■■■■■
*	B	+ 14	24	■■■■■■■■■■■■■■■■
	C	+ 14	24	■■■■■■■■■■■■■■■■
	D	+ 14	24	■■■■■■■■■■■■■■■■
29	A		14	■■■■■
	B		15	■■■■■■
	C	+ 85	26	■■■■■■■■■■■■■■■■■■
	D	+114	30	■■■■■■■■■■■■■■■■■■■■
30	A		17	■■■■■■■■
	B	- 17	14	■■■■■
	C	+ 35	23	■■■■■■■■■■■■■■■
	D	+ 23	21	■■■■■■■■■■■■
31	A		18	■■■■■■■■■
	B		17	■■■■■■■■
	C	+ 33	24	■■■■■■■■■■■■■■■■
	D	+ 55	28	■■■■■■■■■■■■■■■■■■■■
32	A		16	■■■■■■■
	B	- 12	14	■■■■■
	C	+ 31	21	■■■■■■■■■■■■
	D	+ 56	25	■■■■■■■■■■■■■■■■

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C28
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SUMMER EFFECTIVE GUST SPEEDS

SUGGESTED MEAN WIND SPEEDS FOR -----> (MPH)

12 SITTING, 15 STANDING, 19 WALKING, 27 UNCOMFORTABLE FOR WALKING, DANGEROUS CONDITIONS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	10	15	20	25	29+
	A			NOT TESTED				
	B		14	■■■■■■■■■■■■				
	C		18	■■■■■■■■■■■■■■■■■■				
	D		20	■■■■■■■■■■■■■■■■■■■■				
34	A		*	*				
	B	+160	15	■■■■■■■■■■■■■■■				
	C	+180	13	■■■■■■■■■■■■■				
	D	+140	12	■■■■■■■■■■■■				
35	A		--	NOT TESTED				
	B		9	■■■■■■■■■				
	C		13	■■■■■■■■■■■■■				
	D		14	■■■■■■■■■■■■■■				
36	A		--	NOT TESTED				
	B		8	■■■■■■■■				
	C		8	■■■■■■■■				
	D		10	■■■■■■■■■■				
37	A		14	■■■■■■■■■■■■■■				
	B	+ 42	20	■■■■■■■■■■■■■■■■■■■■				
	C	+ 57	22	■■■■■■■■■■■■■■■■■■■■■■				
	D	+ 50	21	■■■■■■■■■■■■■■■■■■■■■■				
38	A		14	■■■■■■■■■■■■■■				
	B	- 50	7	■■■■■■■				
	C	- 35	9	■■■■■■■■■				
	D	- 35	9	■■■■■■■■■				
39	A		13	■■■■■■■■■■■■■				
	B		13	■■■■■■■■■■■■■				
	C	+ 23	16	■■■■■■■■■■■■■■■■				
	D		13	■■■■■■■■■■■■■				
40	A		12	■■■■■■■■■■■■				
	B		13	■■■■■■■■■■■■■				
	C		12	■■■■■■■■■■■■				
	D		13	■■■■■■■■■■■■■				

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability

TEST CONDITION

A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C29

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER MEAN WIND SPEEDS

SUGGESTED EFFECTIVE GUST SPEEDS FOR -------> (MPH)

<----- ACCEPTABLE -----> 31 <----- UNACCEPTABLE ----->

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	10	20	30	40	50+
33	A		--	NOT TESTED				
	B		20	■■■■■■■■■■■■				
	C		24	■■■■■■■■■■■■■■■				
	D		26	■■■■■■■■■■■■■■■■				
34	A		14	■■■■■■■■				
	B	+ 42	20	■■■■■■■■■■■■				
	C	+ 38	18	■■■■■■■■■■■				
	D	+ 28	18	■■■■■■■■■■■				
35	A		--	NOT TESTED				
	B		14	■■■■■■■■				
	C		18	■■■■■■■■■■■				
	D		19	■■■■■■■■■■■■				
36	A		--	NOT TESTED				
	B		13	■■■■■■■■				
	C		12	■■■■■■■■				
	D		15	■■■■■■■■■■				
37	A		21	■■■■■■■■■■■■■				
	B	+ 23	26	■■■■■■■■■■■■■■■■■				
	C	+ 33	28	■■■■■■■■■■■■■■■■■■				
	D	+ 33	28	■■■■■■■■■■■■■■■■■■				
38	A		20	■■■■■■■■■■■■				
	B	- 35	13	■■■■■■■■				
	C	- 32	15	■■■■■■■■■■				
	D	- 25	15	■■■■■■■■■■				
39	A		19	■■■■■■■■■■■■				
	B		18	■■■■■■■■■■■				
	C	+ 21	23	■■■■■■■■■■■■■■■				
	D		18	■■■■■■■■■■■				
40	A		19	■■■■■■■■■■■■				
	B		19	■■■■■■■■■■■■				
	C		19	■■■■■■■■■■■■				
	D		20	■■■■■■■■■■■■■				

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C30

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER EFFECTIVE GUST SPEEDS

SUGGESTED MEAN WIND SPEEDS FOR -----> (MPH)

12 SITTING | 15 STANDING | 19 WALKING | 27 UNCOMFORTABLE FOR WALKING | DANGEROUS CONDITIONS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)
41	A		13
	B		14
	C		14
	D	+ 38	18
42	A		14
	B	+ 50	21
	C	+ 57	22
	D	+ 50	21
43	A		13
	B		14
	C		14
	D	+ 30	17
44	A		12
	B		11
	C	- 16	10
	D	+ 25	15
45	A		15
	B		14
	C		14
	D	- 33	10
46	A		12
	B	+ 33	16
	C	+ 16	14
	D		12
47	A		9
	B	+ 88	17
	C	+ 66	15
	D	+ 55	14
48	A		10
	B	+ 10	11
	C	+ 20	12
	D	+ 20	12

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C31
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SUMMER MEAN WIND SPEEDS

SUGGESTED EFFECTIVE GUST SPEEDS FOR -----> (MPH)

<------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------>

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)
41	A		21
	B		21
	C		20
	D	+ 14	24
42	A		22
	B	+ 31	29
	C	+ 36	30
	D	+ 27	28
43	A		22
	B		22
	C		22
	D		24
44	A		19
	B		18
	C		18
	D	+ 15	22
45	A		25
	B		23
	C		24
	D	- 32	17
46	A		20
	B	+ 15	23
	C	+ 10	22
	D		19
47	A		16
	B	+ 43	23
	C	+ 37	22
	D	+ 18	19
48	A		17
	B		16
	C		18
	D	+ 11	19

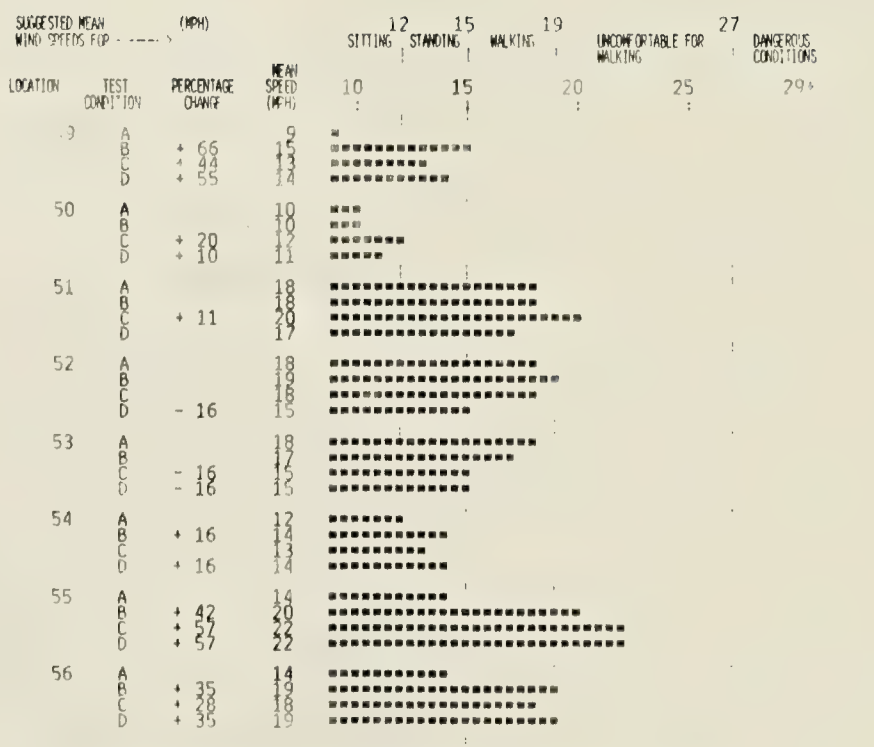
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C32
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SUMMER EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

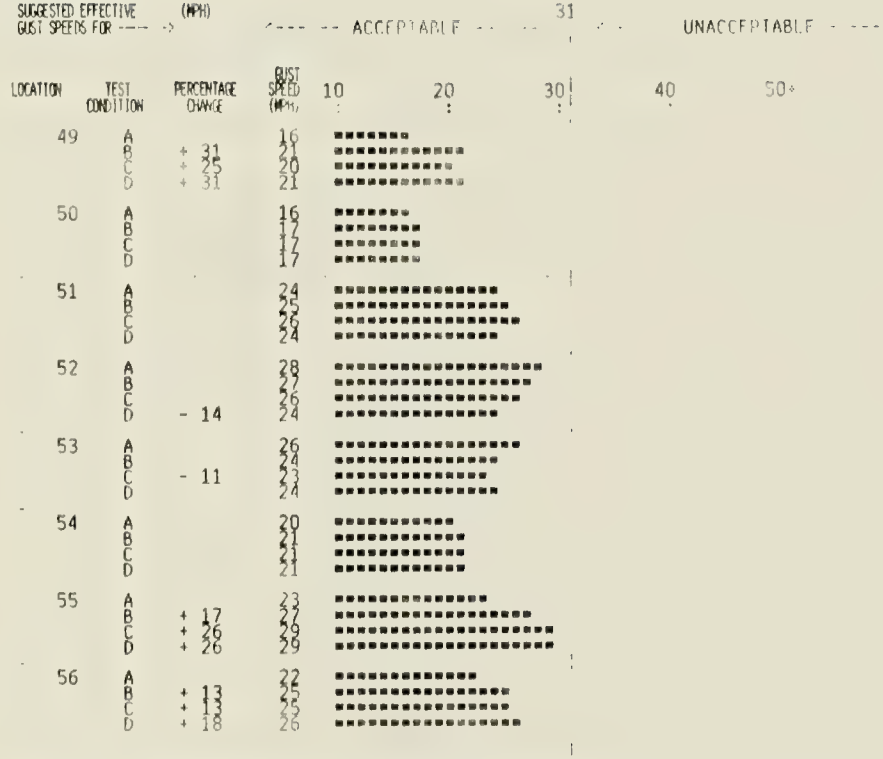
A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C33

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

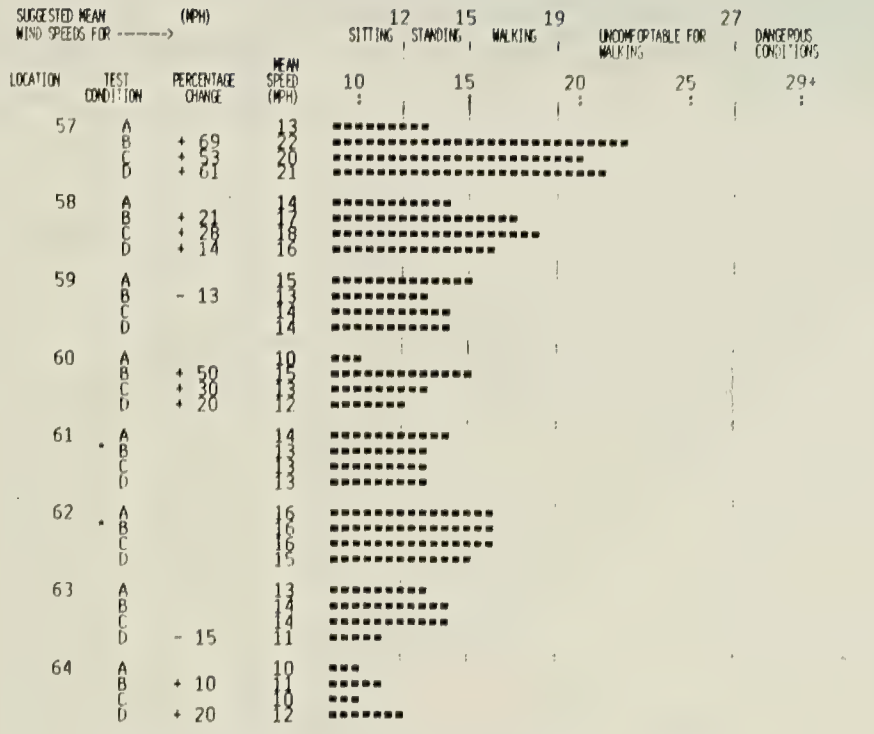
A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C34

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER EFFECTIVE GUST SPEEDS



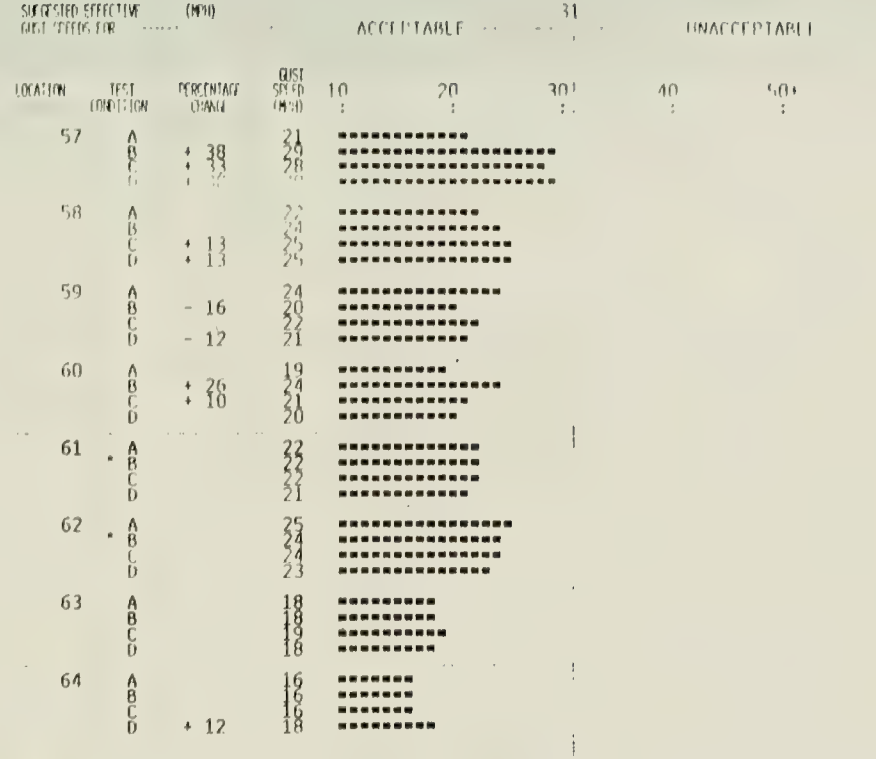
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C35
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SUMMER MEAN WIND SPEEDS



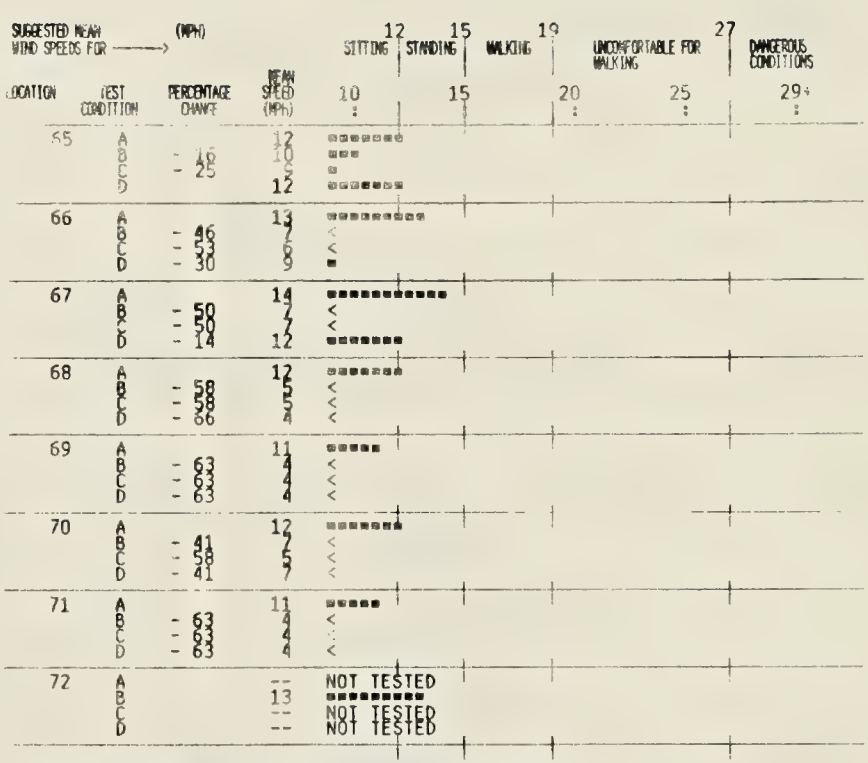
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C36
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SUMMER EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

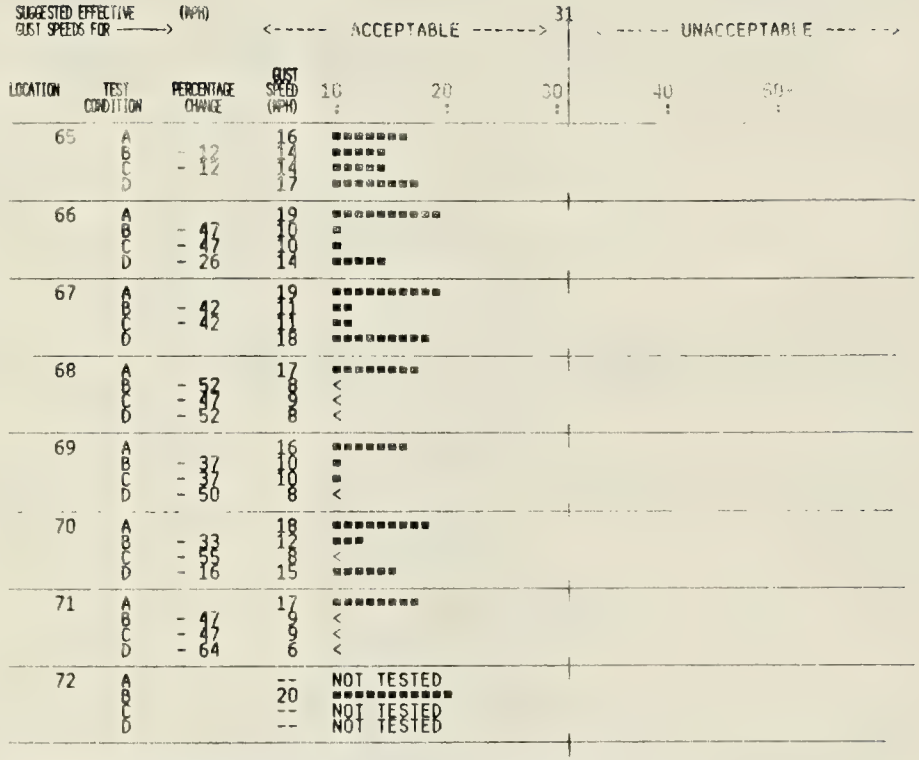
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C37

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORY

SUMMER MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C38

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER EFFECTIVE GUST SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN WIND SPEED (MPH)	SUGGESTED MEAN WIND SPEEDS FOR ——> (MPH) 10 : 15 : 20 : 25 : 29+ : SITTING 12 | STANDING 15 | WALKING 19 | UNCOMFORTABLE FOR WALKING 27 | DANGEROUS CONDITIONS
73	A		--	NOT TESTED
	B		13	■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
74	A		--	NOT TESTED
	B		13	■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
75	A		--	NOT TESTED
	B		18	■■■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
76	A		--	NOT TESTED
	B		8	<
	C		--	NOT TESTED
	D		--	NOT TESTED
77	A		--	NOT TESTED
	B		7	<
	C		--	NOT TESTED
	D		--	NOT TESTED
78	A		--	NOT TESTED
	B		9	■
	C		--	NOT TESTED
	D		--	NOT TESTED
79	A		--	NOT TESTED
	B		16	■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C39
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SUMMER MEAN WIND SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	SUGGESTED EFFECTIVE GUST SPEEDS FOR ——> (MPH) <------ ACCEPTABLE ------> 31 | <------ UNACCEPTABLE ------> 10 : 20 : 30 : 40 : 50+ :
73	A		--	NOT TESTED
	B		19	■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
74	A		--	NOT TESTED
	B		21	■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
75	A		--	NOT TESTED
	B		26	■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
76	A		--	NOT TESTED
	B		15	■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
77	A		--	NOT TESTED
	B		13	■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
78	A		--	NOT TESTED
	B		16	■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
79	A		--	NOT TESTED
	B		22	■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED

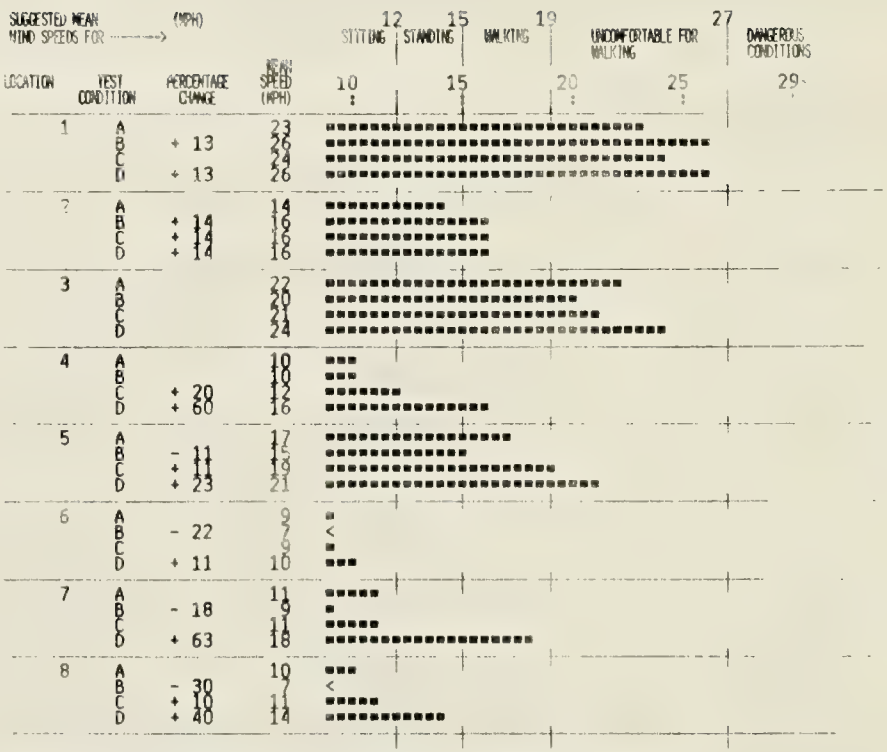
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C40
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SUMMER EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

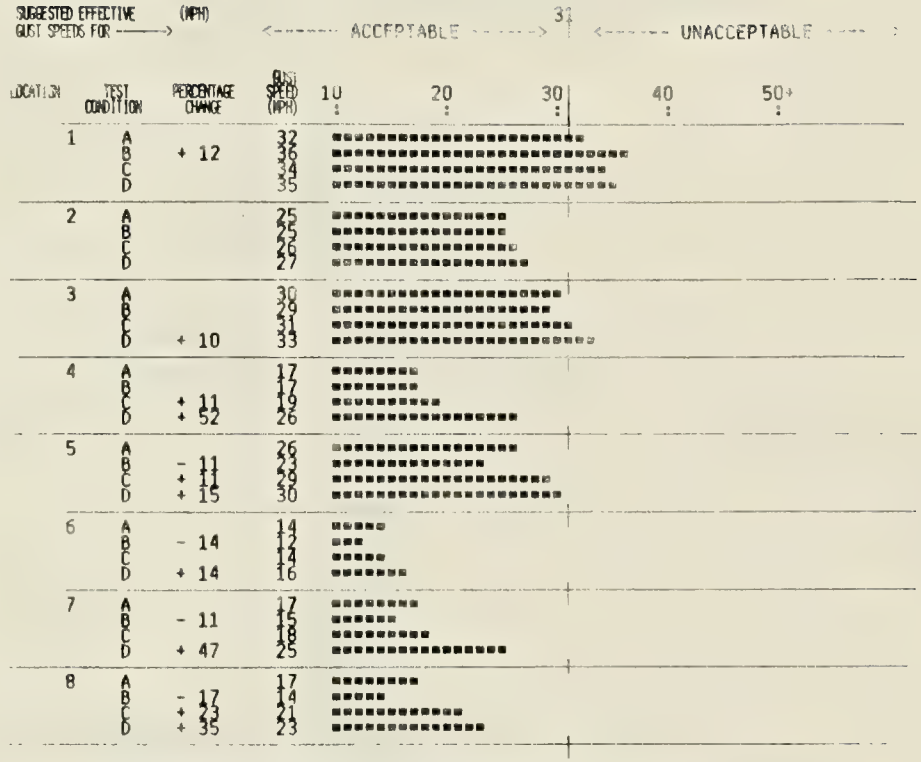
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C41

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

AUTUMN MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

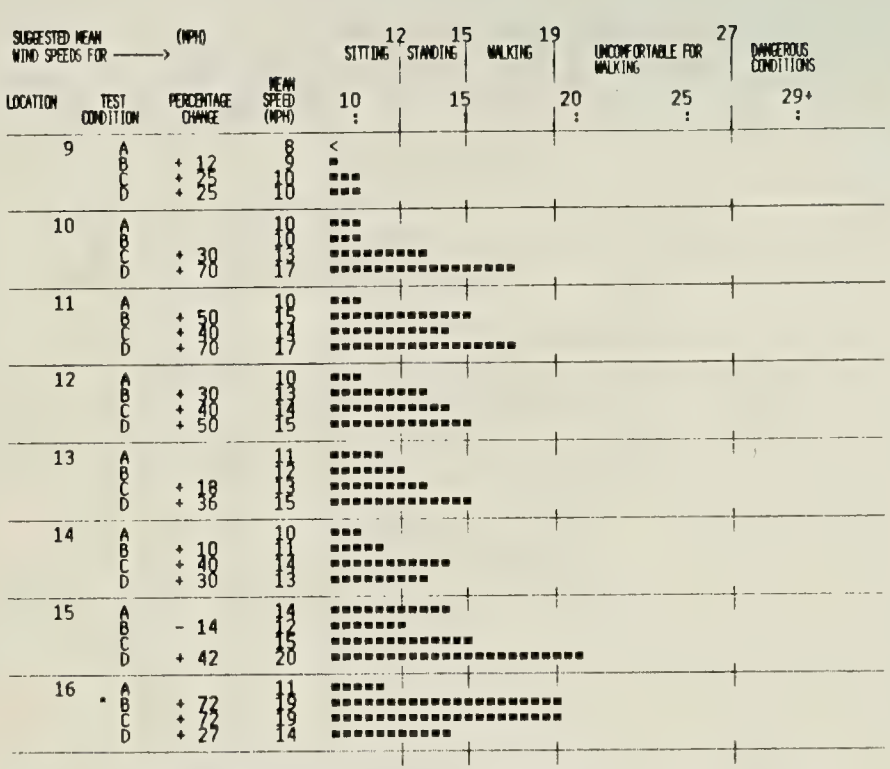
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C42

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

AUTUMN EFFECTIVE GUST SPEEDS



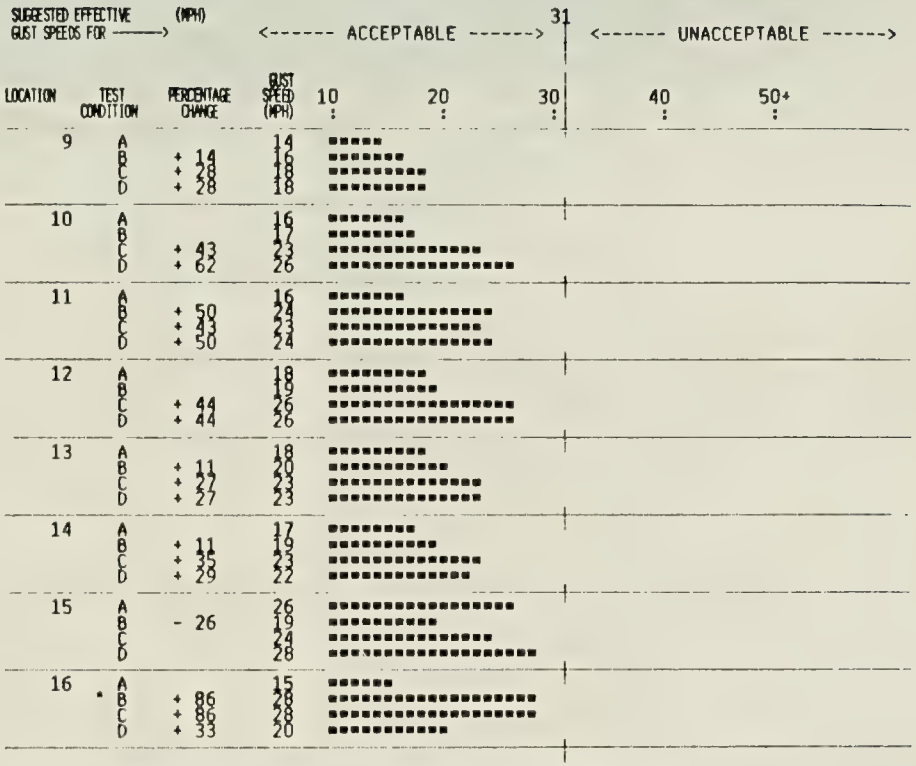
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C43
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
AUTUMN MEAN WIND SPEEDS



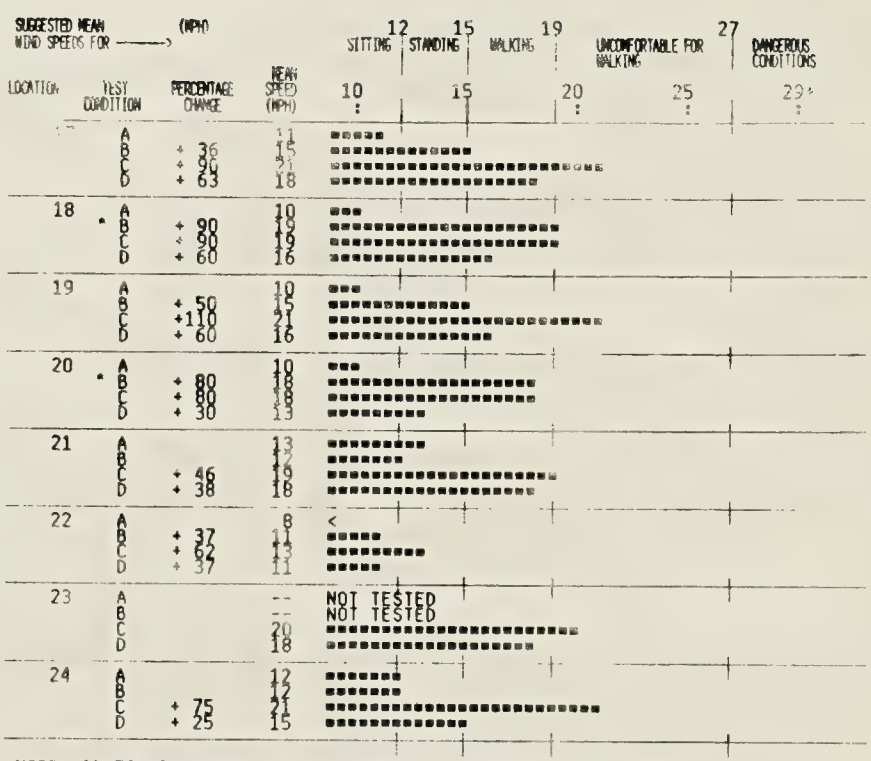
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C44
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
AUTUMN EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

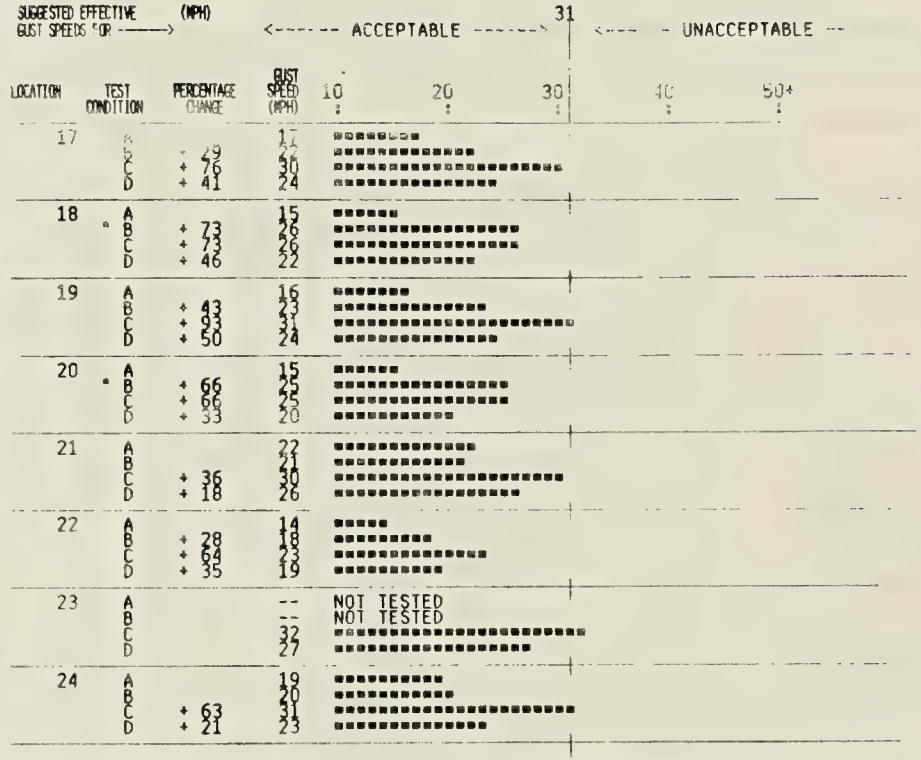
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C45

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

AUTUMN MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

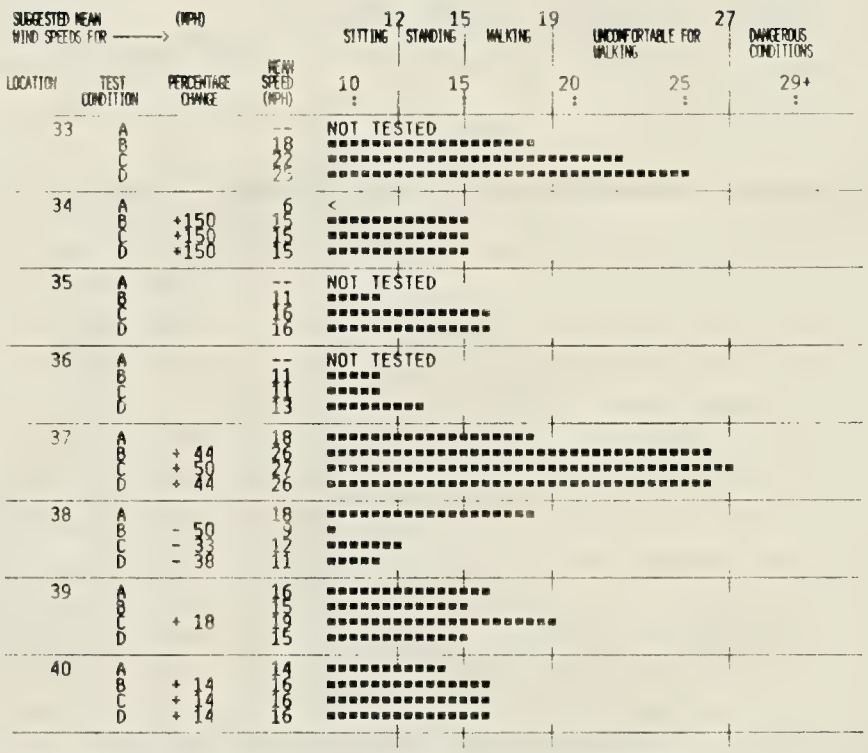
TABLE WIND-C46

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

AUTUMN EFFECTIVE GUST SPEEDS

SUGGESTED MEAN WIND SPEEDS FOR ——> (MPH)

				12	15	19	27	
				SITTING	STANDING	WALKING	UNCOMFORTABLE FOR WALKING	DANGEROUS CONDITIONS
LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	10 :	15 :	20 :	25 :	29+ :
25	A		11	■■■■■				
	* B	+ 54	17	■■■■■■■■■■■■■■■■■				
	C	+ 54	17	■■■■■■■■■■■■■■■■■				
	D	+ 27	14	■■■■■■■■■■■■				
26	A		9	■■■				
	B	+ 44	13	■■■■■■■■■■				
	C	+111	19	■■■■■■■■■■■■■■■■■■■■■				
	D	+ 88	17	■■■■■■■■■■■■■■■■■				
27	A		10	■■■■				
	B	+ 20	12	■■■■■■■				
	C	+140	24	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■				
	D	+130	23	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■				
28	A		17	■■■■■■■■■■■■■■■■■				
	* B	+ 23	21	■■■■■■■■■■■■■■■■■■■■■■■■				
	C	+ 23	21	■■■■■■■■■■■■■■■■■■■■■■■■				
	D	+ 23	21	■■■■■■■■■■■■■■■■■■■■■■■■				
29	A		9	■■■				
	B	+ 33	12	■■■■■■■				
	C	+155	23	■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■				
	D	+222	29	■■■■■■■■■■■■■■■■■■■



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C49

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

AUTUMN MEAN WIND SPEEDS

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

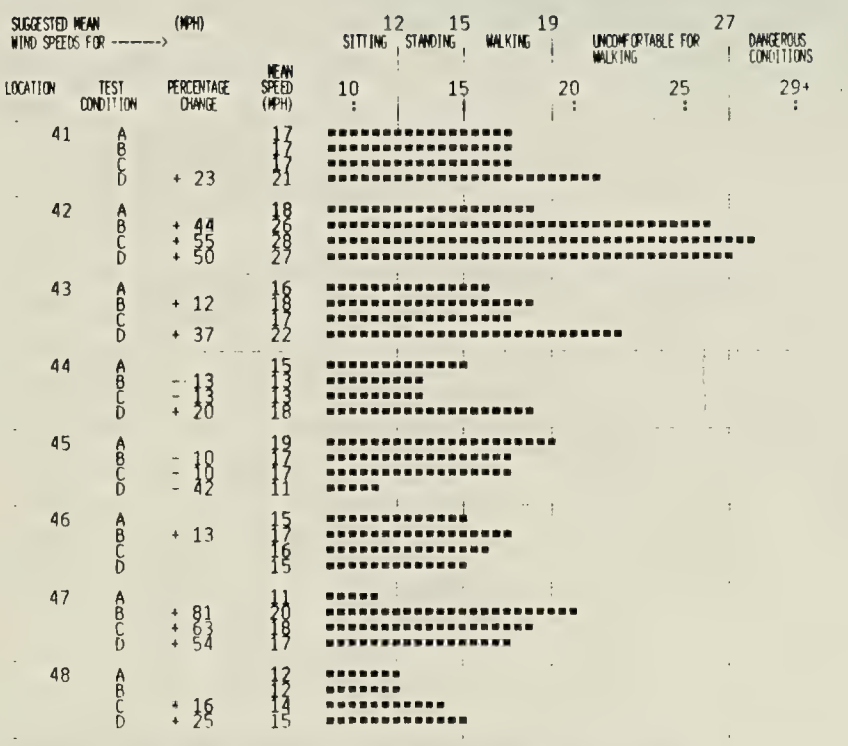
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C50

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

AUTUMN EFFECTIVE GUST SPEEDS



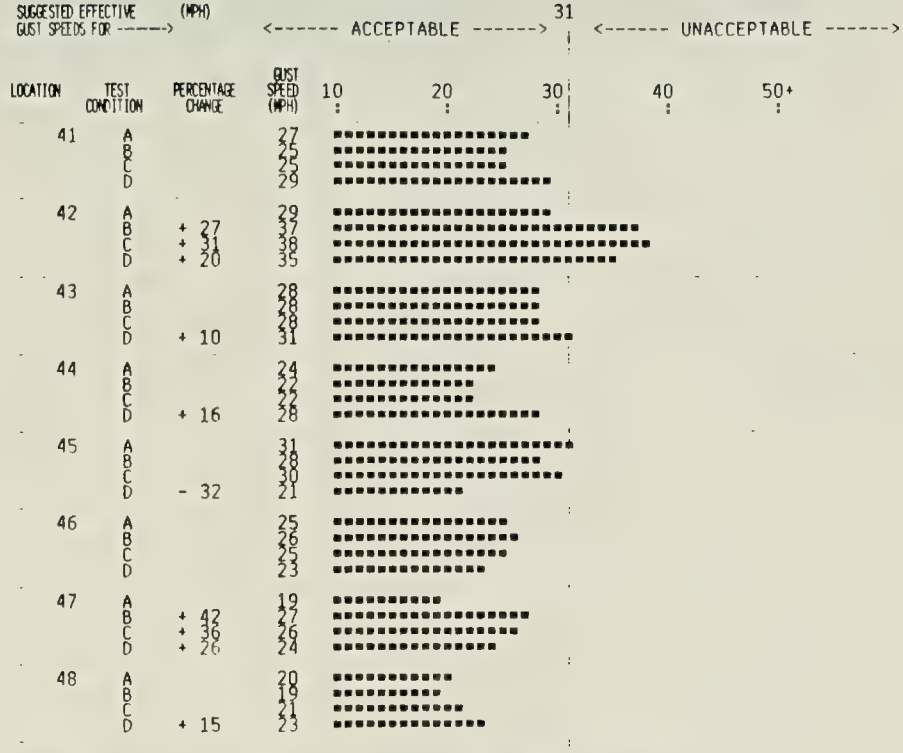
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C51
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
AUTUMN MEAN WIND SPEEDS



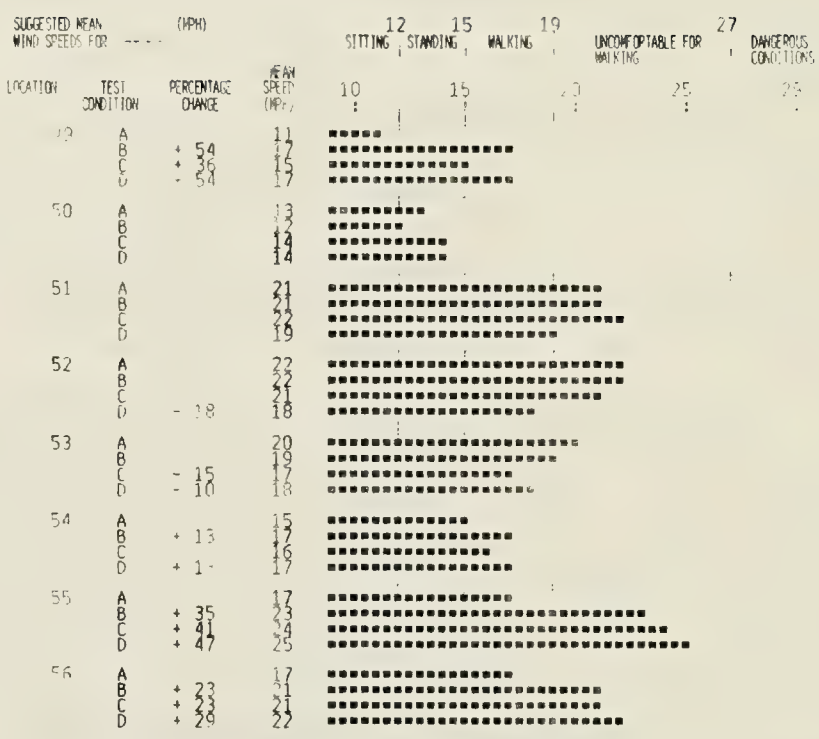
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C52
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
AUTUMN EFFECTIVE GUST SPEEDS



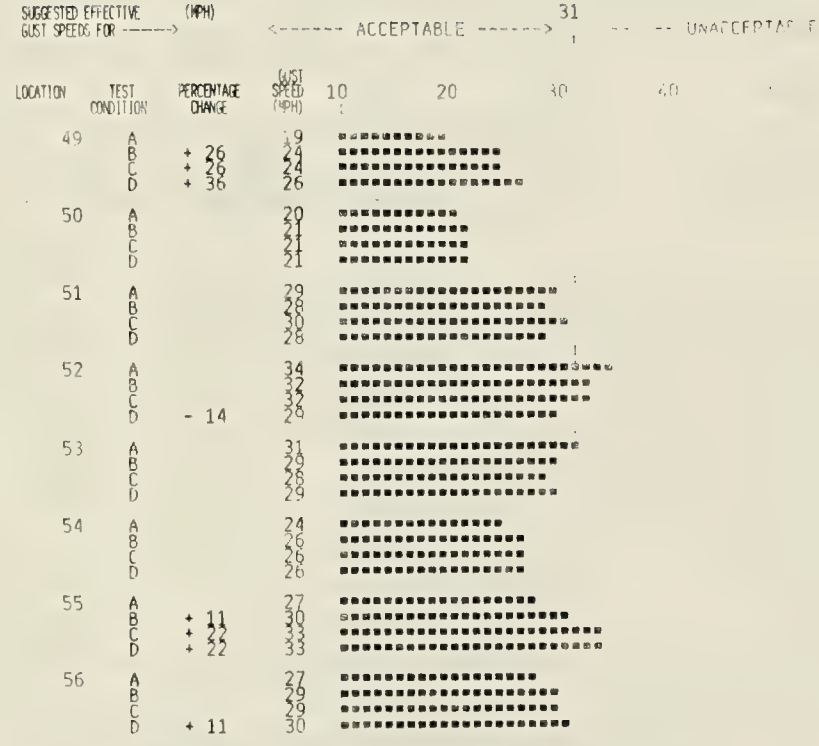
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speed are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C53
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
AUTUMN MEAN WIND SPEEDS



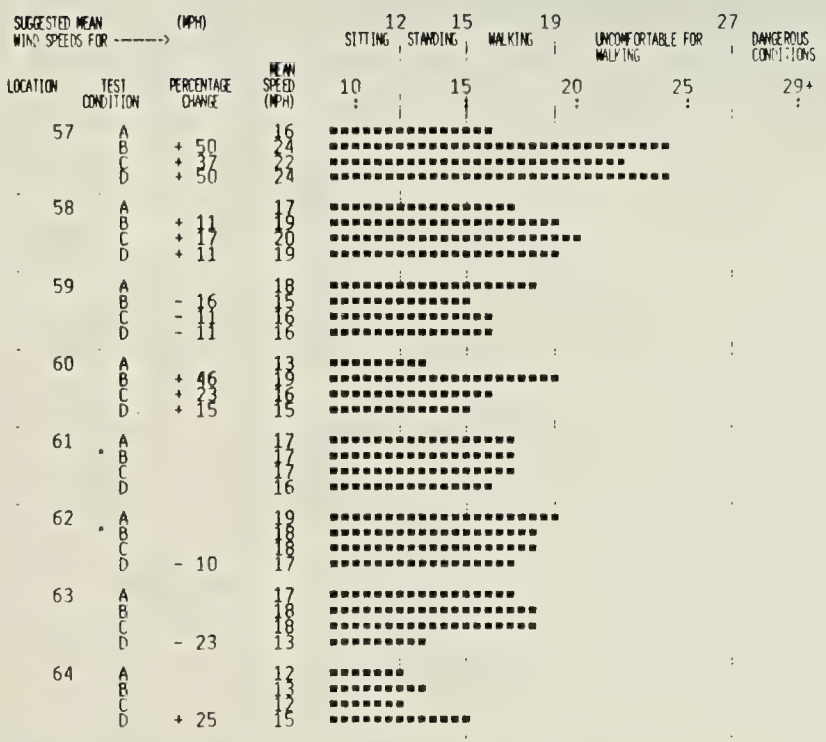
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C54
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
AUTUMN EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

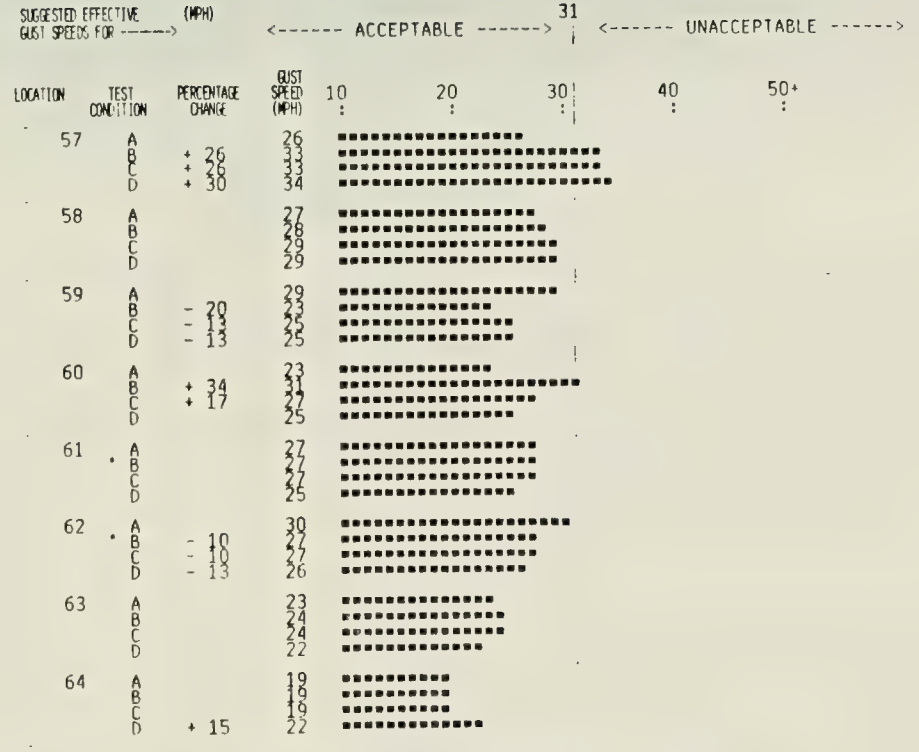
A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C55

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

AUTUMN MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C56

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

AUTUMN EFFECTIVE GUST SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)
65	A		15
	B	- 59	12
	C	- 26	11
	D		15
66	A		17
	B	- 52	8
	C	- 53	8
	D	- 29	12
67	A		18
	B	- 55	8
	C	- 50	9
	D	- 16	15
68	A		14
	B	- 57	6
	C	- 57	6
	D	- 64	5
69	A		13
	B	- 61	5
	C	- 61	5
	D	- 69	4
70	A		17
	B	- 43	9
	C	- 62	6
	D	- 50	8
71	A		14
	B	- 64	5
	C	- 64	5
	D	- 64	5
72	A		-
	B		16
	C		NOT TESTED
	D		NOT TESTED

SUGGESTED MEAN WIND SPEEDS FOR ------> (MPH)

12 SITTING | 15 STANDING | 19 WALKING | 27 UNCOMFORTABLE FOR WALKING | DANGEROUS CONDITIONS

10 | 15 | 20 | 25 | 29*

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C57
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
AUTUMN MEAN WIND SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)
65	A		20
	B	- 15	17
	C	- 20	16
	D		21
66	A		24
	B	- 50	12
	C	- 45	13
	D	- 25	18
67	A		25
	B	- 44	14
	C	- 44	14
	D		23
68	A		21
	B	- 52	10
	C	- 42	12
	D	- 52	10
69	A		19
	B	- 36	12
	C	- 26	14
	D	- 47	10
70	A		22
	B	- 31	15
	C	- 54	10
	D	- 22	17
71	A		20
	B	- 45	11
	C	- 60	8
	D	- 60	8
72	A		--
	B		24
	C		--
	D		--

SUGGESTED EFFECTIVE GUST SPEEDS FOR ------> (MPH)

<------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------

10 | 20 | 30 | 40 | 57

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C58
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
AUTUMN EFFECTIVE GUST SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	SUGGESTED MEAN WIND SPEEDS FOR ----> 10 : 12 SITTING	15 STANDING	19 WALKING	27 UNCOMFORTABLE FOR WALKING	DANGEROUS CONDITIONS 29+ :
73	A		--	NOT TESTED				
	B		15	■■■■■■■■■■■■■				
	C		--	NOT TESTED				
	D		--	NOT TESTED				
74	A		--	NOT TESTED				
	B		16	■■■■■■■■■■■■■■				
	C		--	NOT TESTED				
	D		--	NOT TESTED				
75	A		--	NOT TESTED				
	B		23	■■■■■■■■■■■■■■■■■■■■■■■■■■				
	C		--	NOT TESTED				
	D		--	NOT TESTED				
76	A		--	NOT TESTED				
	B		10	■■■				
	C		--	NOT TESTED				
	D		--	NOT TESTED				
77	A		--	NOT TESTED				
	B		9	■				
	C		--	NOT TESTED				
	D		--	NOT TESTED				
78	A		--	NOT TESTED				
	B		11	■■■■■				
	C		--	NOT TESTED				
	D		--	NOT TESTED				
79	A		--	NOT TESTED				
	B		20	■■■■■■■■■■■■■■■■■■■■				
	C		--	NOT TESTED				
	D		--	NOT TESTED				

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C59
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
AUTUMN MEAN WIND SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	SUGGESTED EFFECTIVE GUST SPEEDS FOR ----> 10 : <------ ACCEPTABLE ------> 30 : 31 <------ UNACCEPTABLE ------> 40 : 50+ :
73	A		--	NOT TESTED
	B		23	■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
74	A		--	NOT TESTED
	B		25	■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
75	A		--	NOT TESTED
	B		32	■■■■■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
76	A		--	NOT TESTED
	B		18	■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
77	A		--	NOT TESTED
	B		15	■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
78	A		--	NOT TESTED
	B		19	■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
79	A		--	NOT TESTED
	B		27	■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED

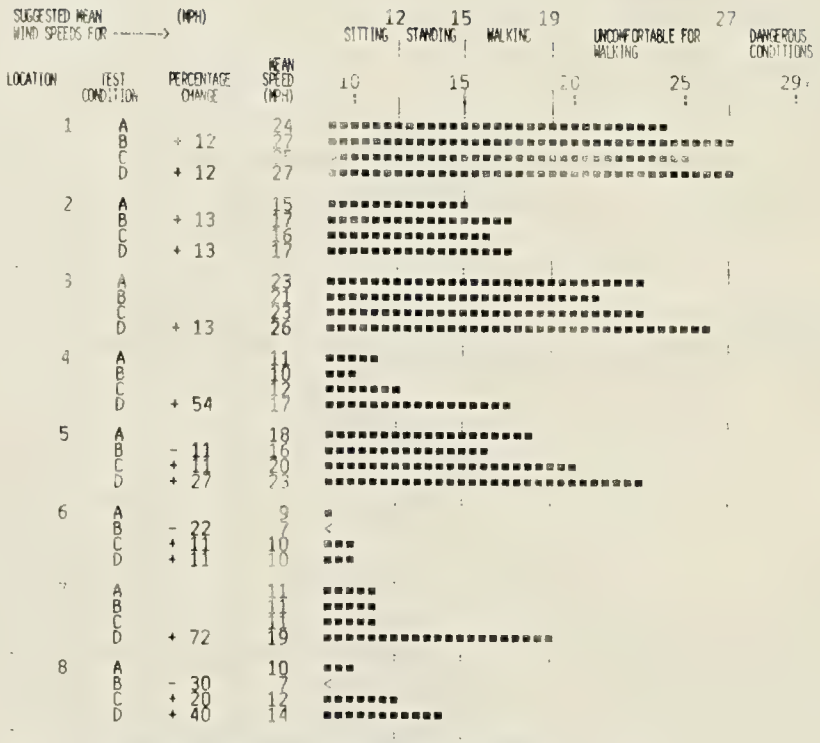
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C60
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
AUTUMN EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

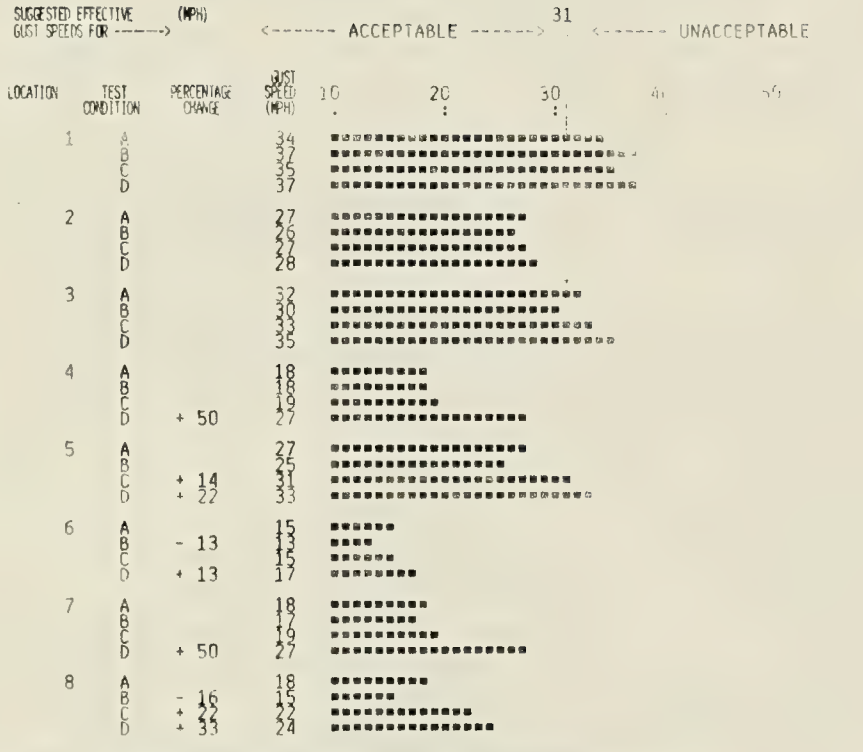
A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C61

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

WINTER MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C62

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

WINTER EFFECTIVE GUST SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)
9	A		9
	B		8
	C	+ 11	10
	D	+ 22	11
10	A		10
	B		10
	C	+ 40	14
	D	+ 80	18
11	A		10
	B	+ 60	16
	C	+ 30	13
	D	+ 70	17
12	A		10
	B	+ 40	14
	C	+ 60	16
	D	+ 60	16
13	A		12
	B		13
	C	+ 16	14
	D	+ 41	17
14	A		11
	B		12
	C	+ 36	15
	D	+ 27	14
15	A		15
	B	- 13	13
	C		16
	D	+ 40	21
16	A		11
*	B	+ 81	20
	C	+ 81	20
	D	+ 36	15

SUGGESTED MEAN WIND SPEEDS FOR -----> (MPH): 12 SITTING, 15 STANDING, 19 WALKING, 27 UNCOMFORTABLE FOR WALKING, DANGEROUS CONDITIONS

MEAN SPEED (MPH): 10 : 15 : 20 : 25 : 29+

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C63
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER MEAN WIND SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)
9	A		15
	B	+ 13	17
	C	+ 26	19
	D	+ 26	19
10	A		17
	B		18
	C	+ 41	24
	D	+ 64	28
11	A		17
	B	+ 47	25
	C	+ 41	24
	D	+ 47	25
12	A		20
	B		21
	C	+ 45	29
	D	+ 35	27
13	A		20
	B		21
	C	+ 20	24
	D	+ 20	24
14	A		19
	B	+ 10	21
	C	+ 31	25
	D	+ 21	23
15	A		24
	B	- 12	21
	C		26
	D	+ 20	29
16	A		16
*	B	+ 81	29
	C	+ 81	29
	D	+ 31	21

SUGGESTED EFFECTIVE GUST SPEEDS FOR -----> (MPH): <------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------>

GUST SPEED (MPH): 10 : 20 : 30 : 40 : 50+

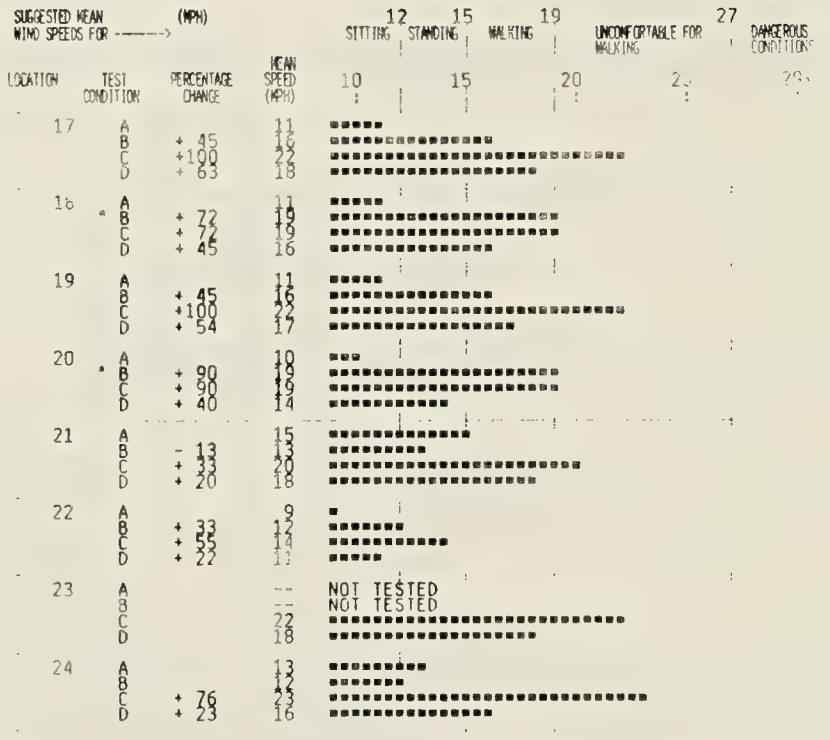
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C64
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

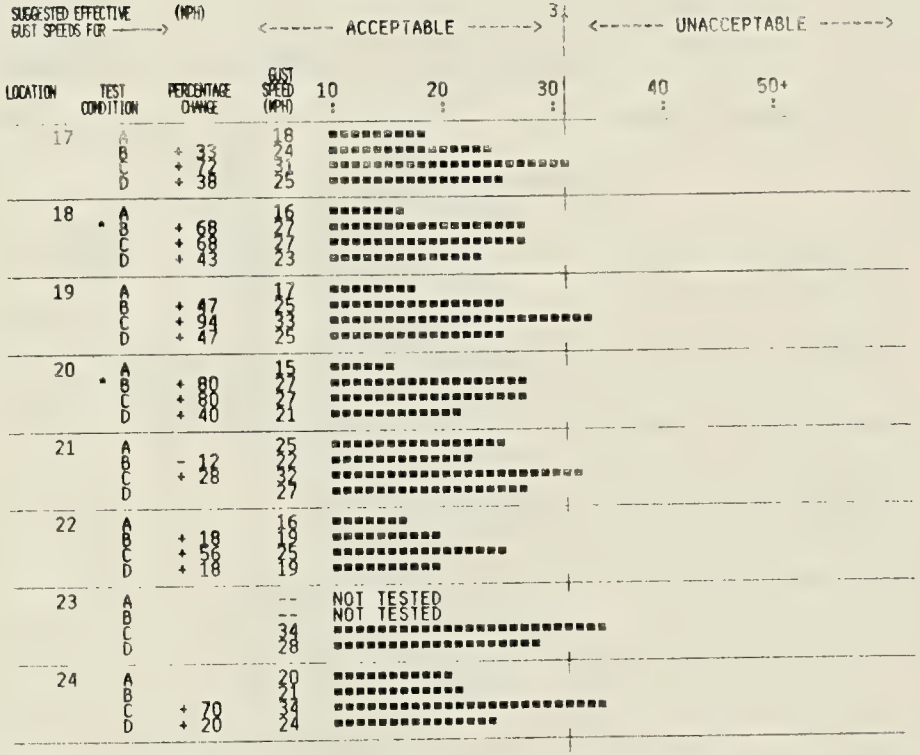
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C65

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

WINTER MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

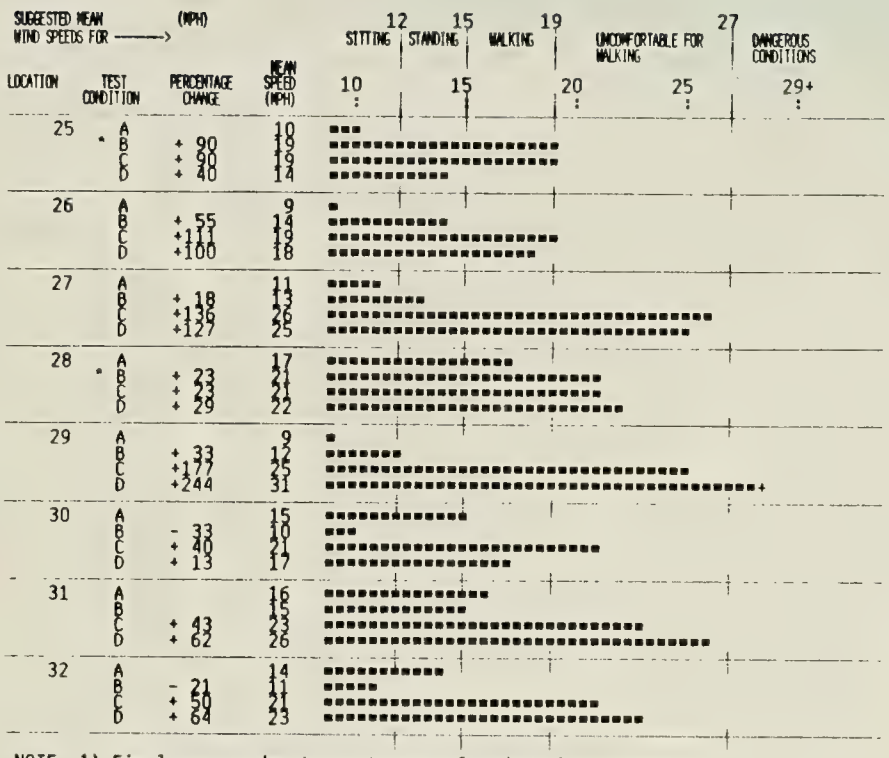
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C66

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

WINTER EFFECTIVE GUST SPEEDS



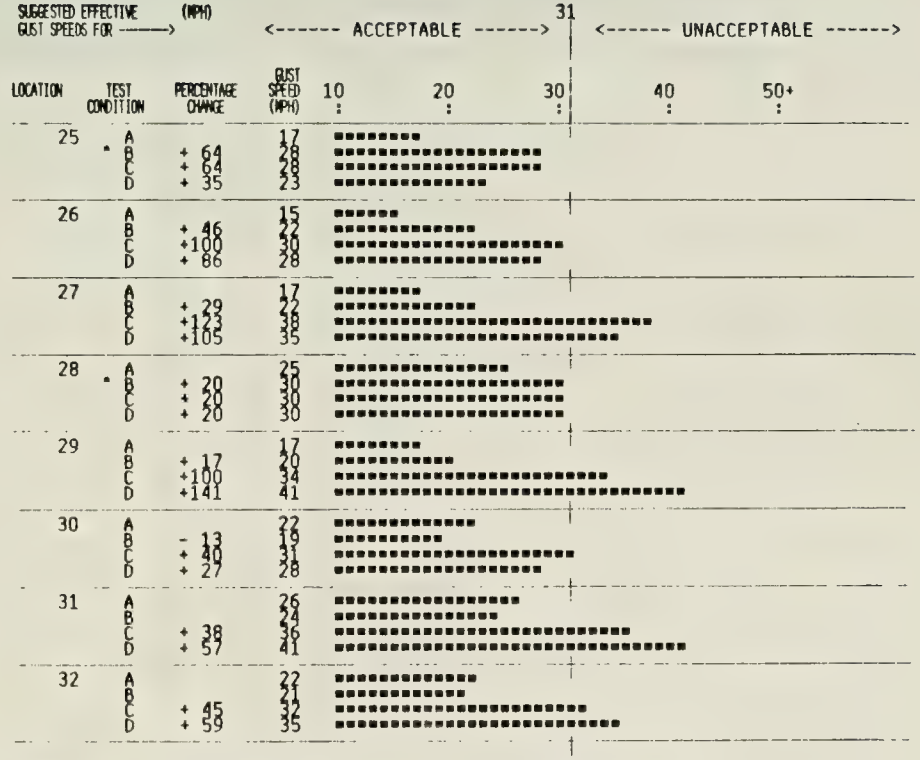
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C67
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER MEAN WIND SPEEDS



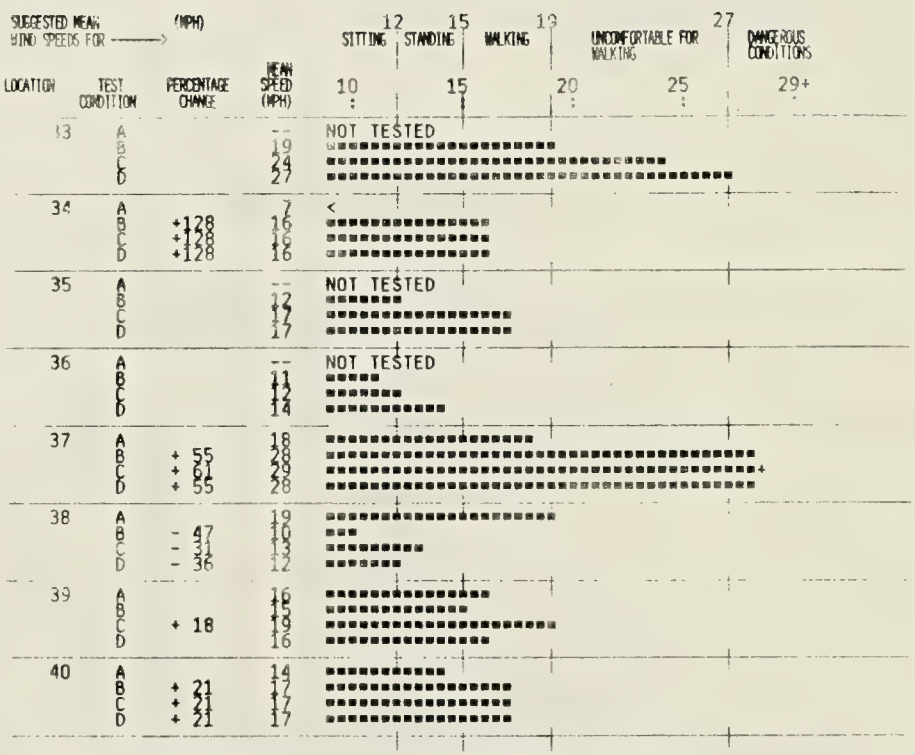
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C68
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

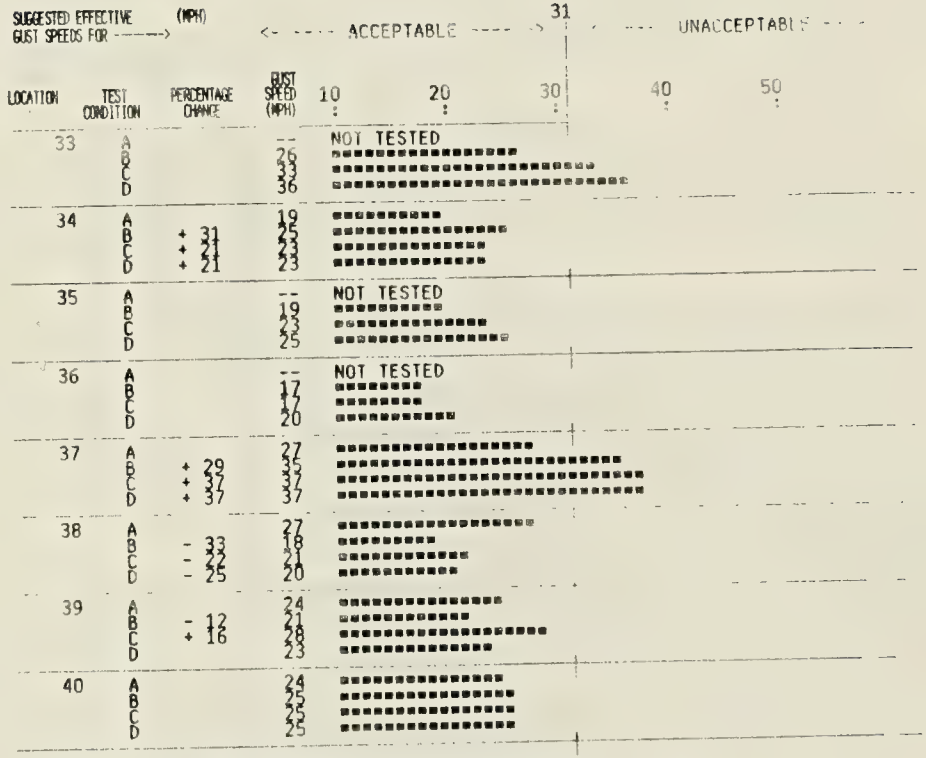
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C69

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

WINTER MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

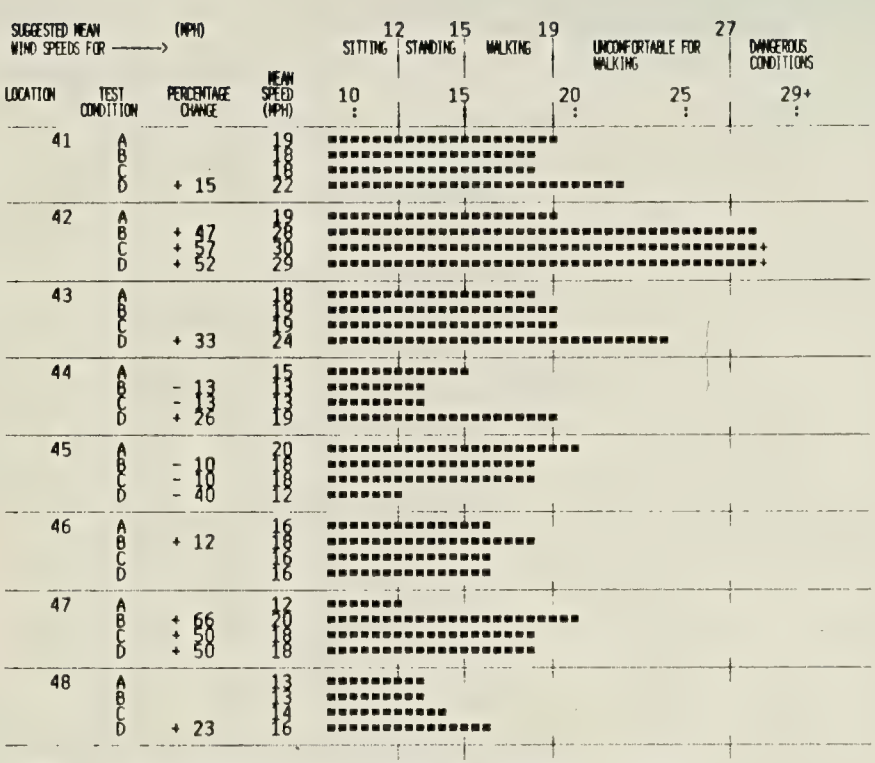
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C70

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

WINTER EFFECTIVE GUST SPEEDS



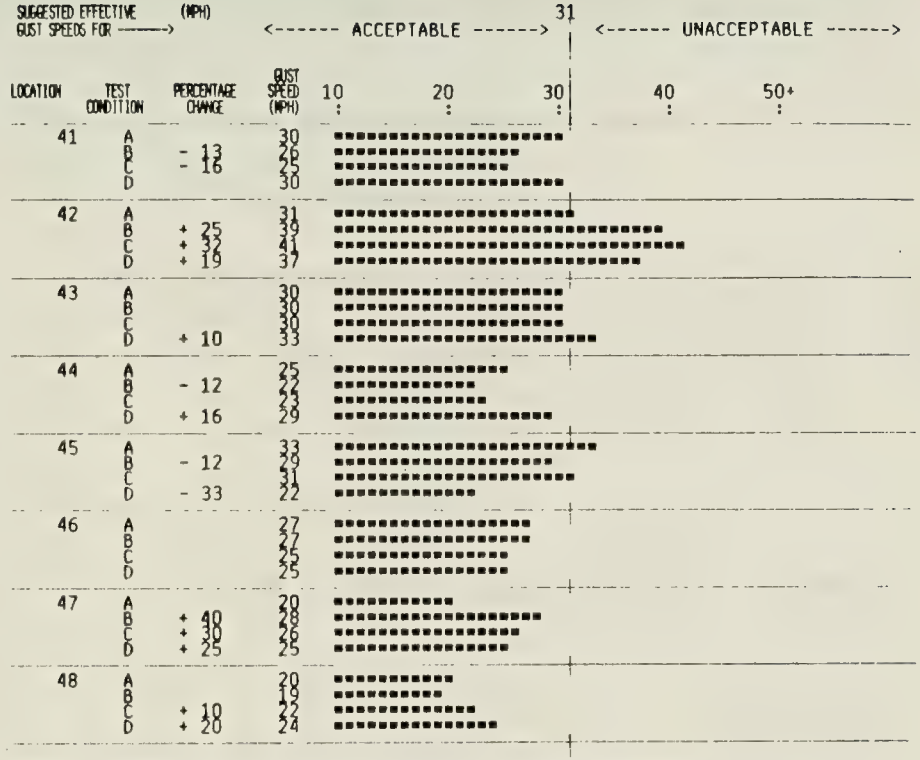
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C71
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER MEAN WIND SPEEDS



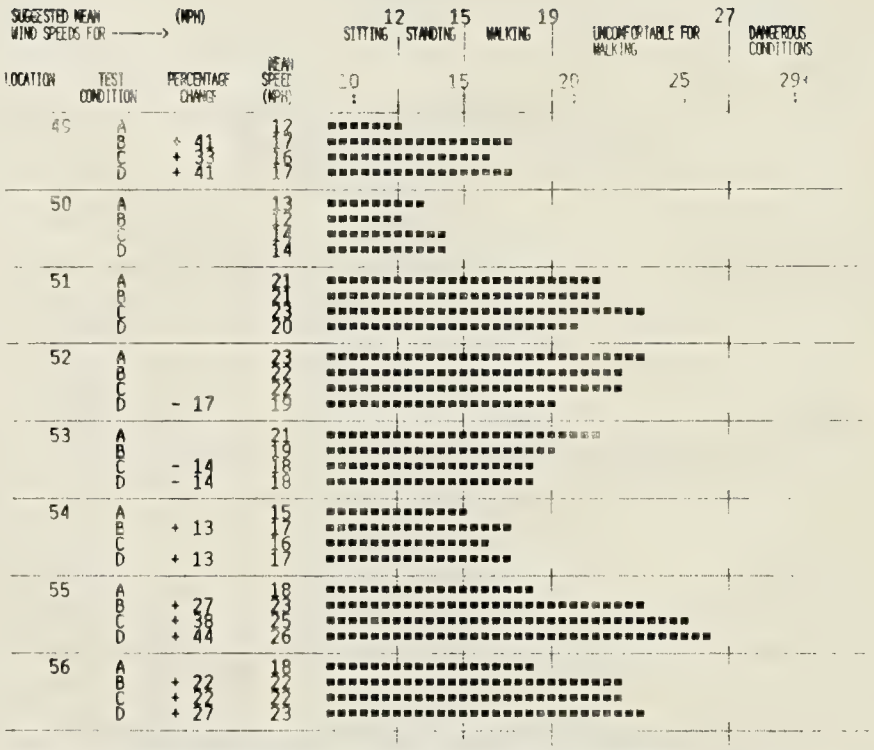
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C72
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

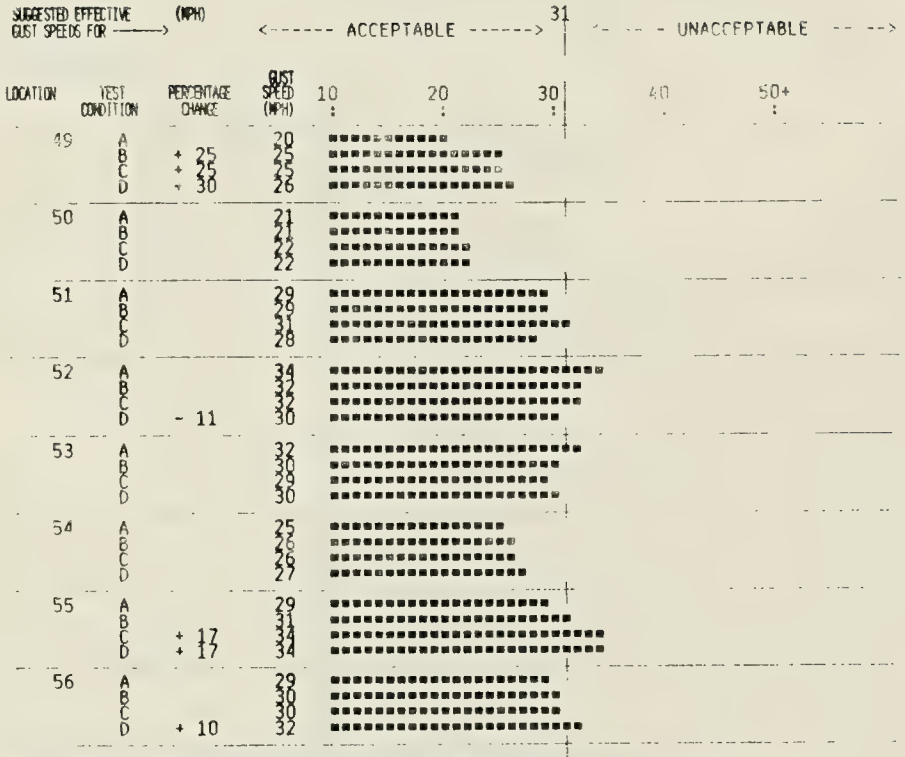
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C73

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

WINTER MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

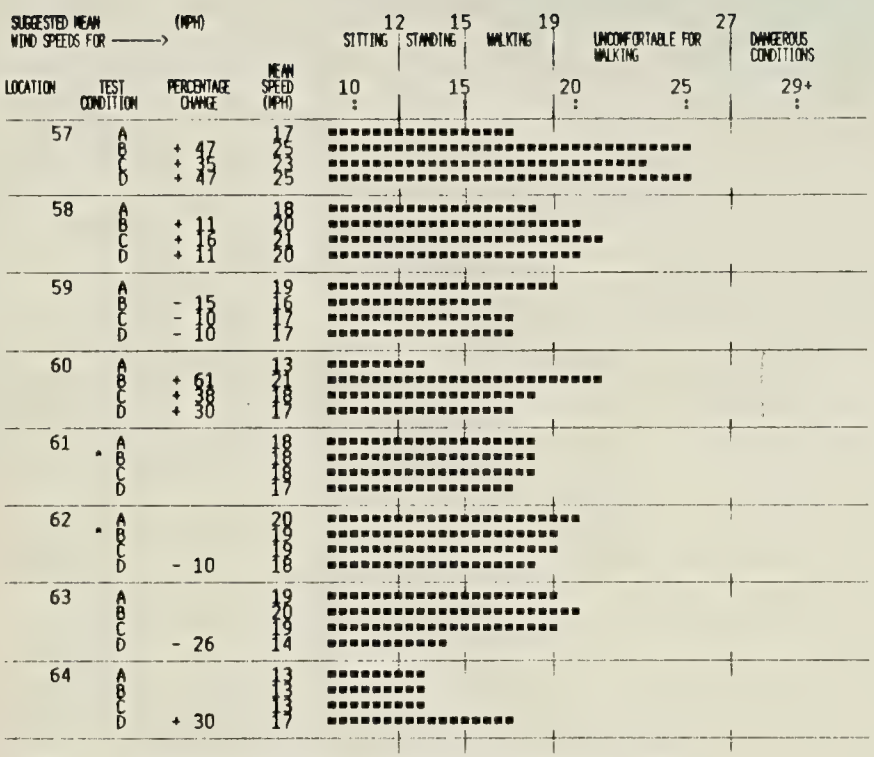
TABLE WIND-C74

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

WINTER EFFECTIVE GUST SPEEDS

SUGGESTED MEAN WIND SPEEDS FOR ——> (MPH)

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)
57	A		17
	B	+ 47	25
	C	+ 35	23
	D	+ 47	25
58	A		18
	B	+ 11	20
	C	+ 16	21
	D	+ 11	20
59	A		19
	B	- 15	16
	C	- 10	17
	D	- 10	17
60	A		13
	B	+ 61	21
	C	+ 38	18
	D	+ 30	17
61	* A		18
	B		18
	C		18
	D		17
62	* A		20
	B		19
	C		19
	D	- 10	18
63	A		19
	B		20
	C		19
	D	- 26	14
64	A		13
	B		13
	C		13
	D	+ 30	17



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

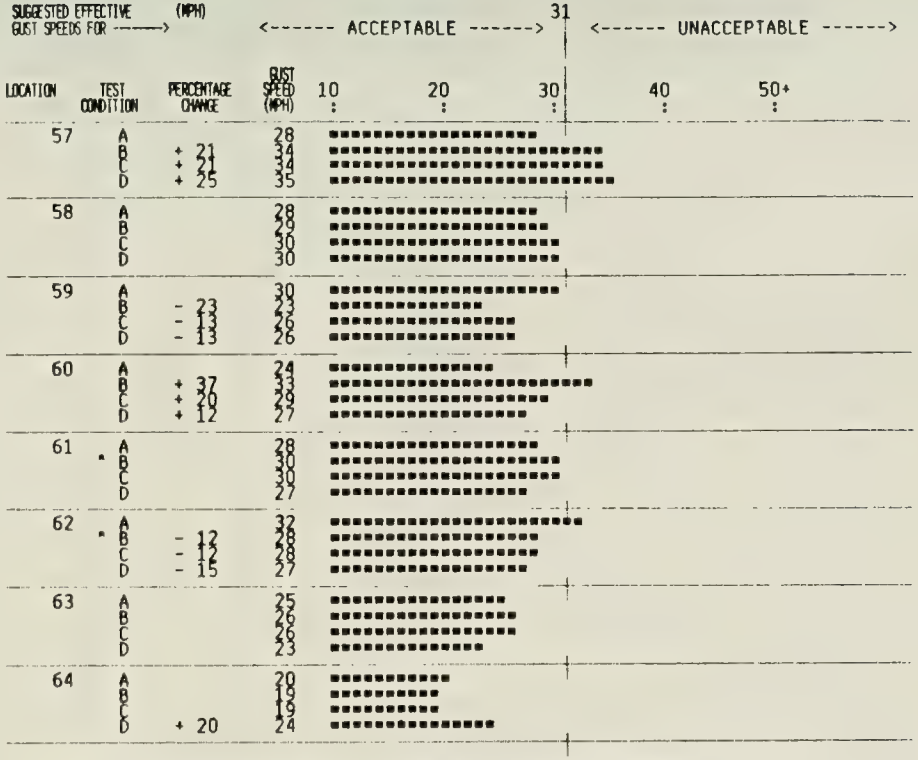
A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C75
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER MEAN WIND SPEEDS

SUGGESTED EFFECTIVE GUST SPEEDS FOR ——> (MPH)

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)
57	A		28
	B	+ 21	34
	C	+ 21	34
	D	+ 25	35
58	A		28
	B		29
	C		30
	D		30
59	A		30
	B	- 23	23
	C	- 13	26
	D	- 13	26
60	A		24
	B	+ 37	33
	C	+ 20	29
	D	+ 12	27
61	* A		28
	B		30
	C		30
	D		27
62	* A		32
	B	- 12	28
	C	- 12	28
	D	- 15	27
63	A		25
	B		26
	C		26
	D		23
64	A		20
	B		19
	C		19
	D	+ 20	24



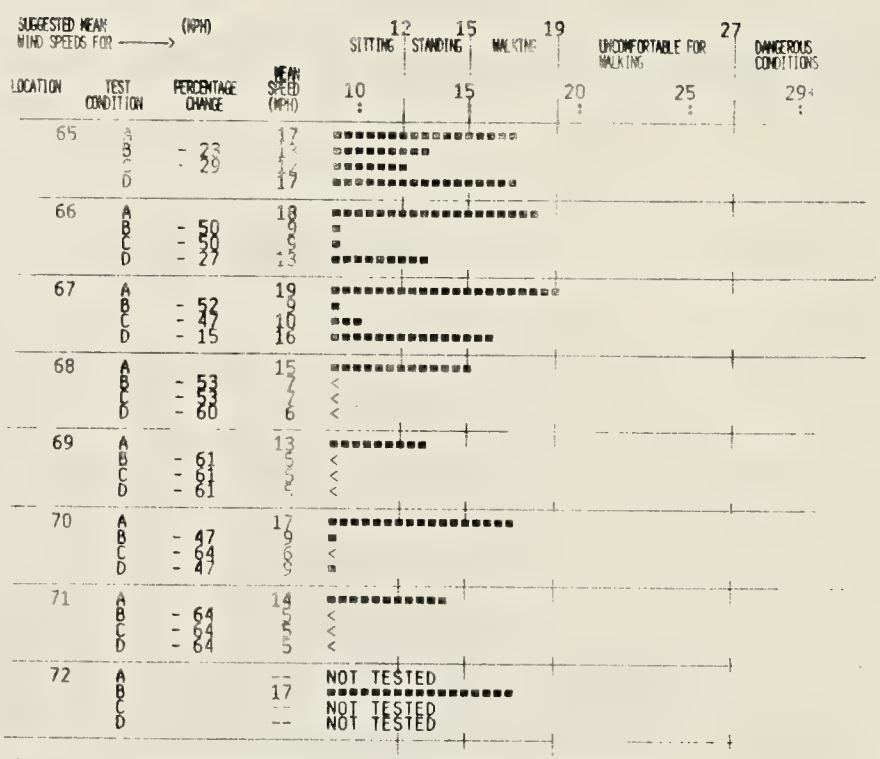
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C76
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

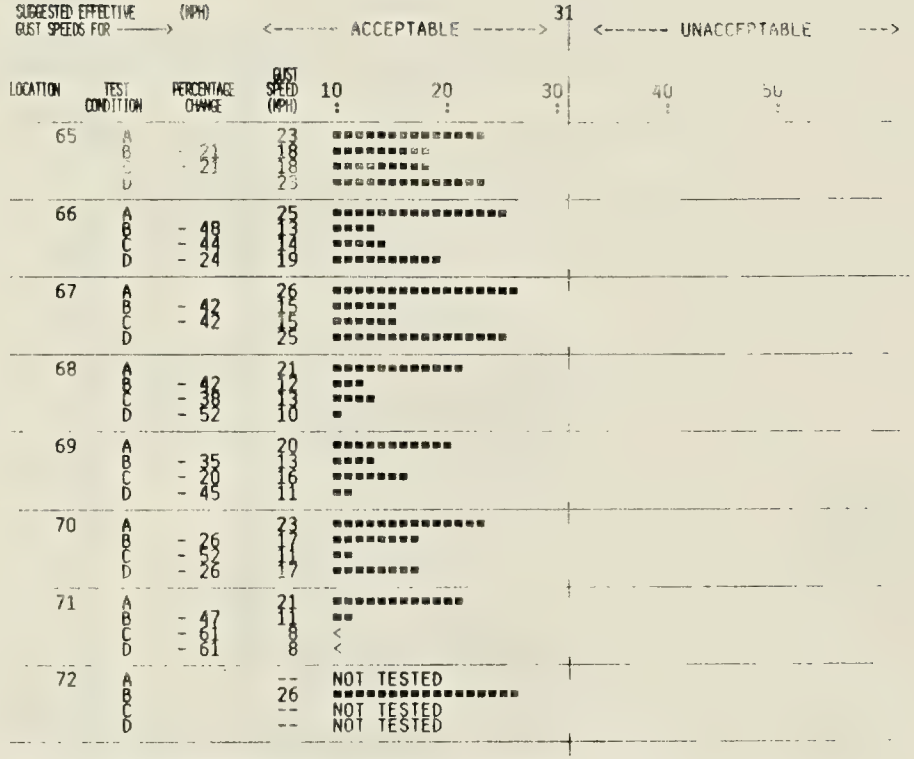
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C77

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

WINTER MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

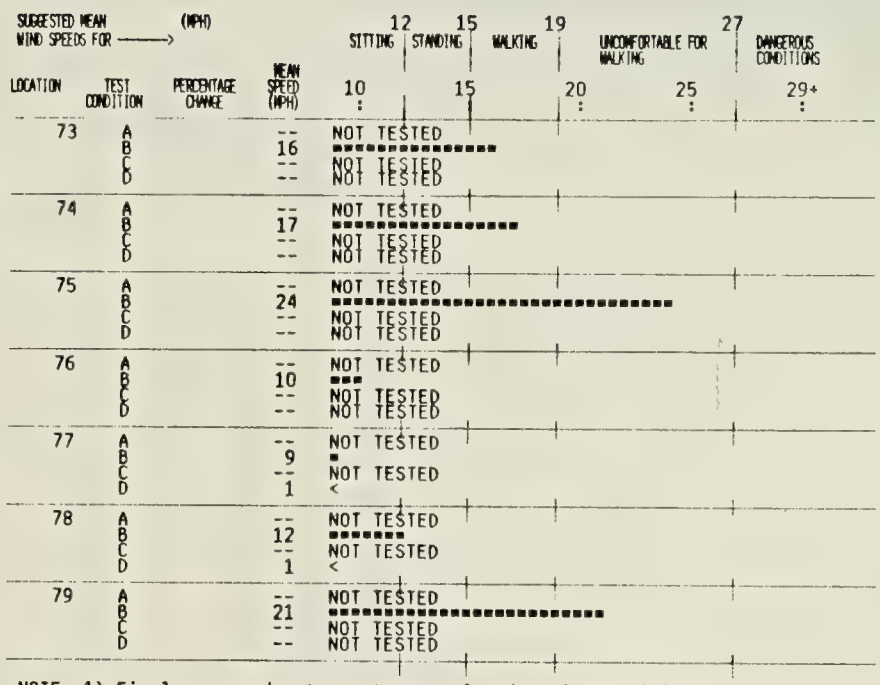
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C78

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

WINTER EFFECTIVE GUST SPEEDS



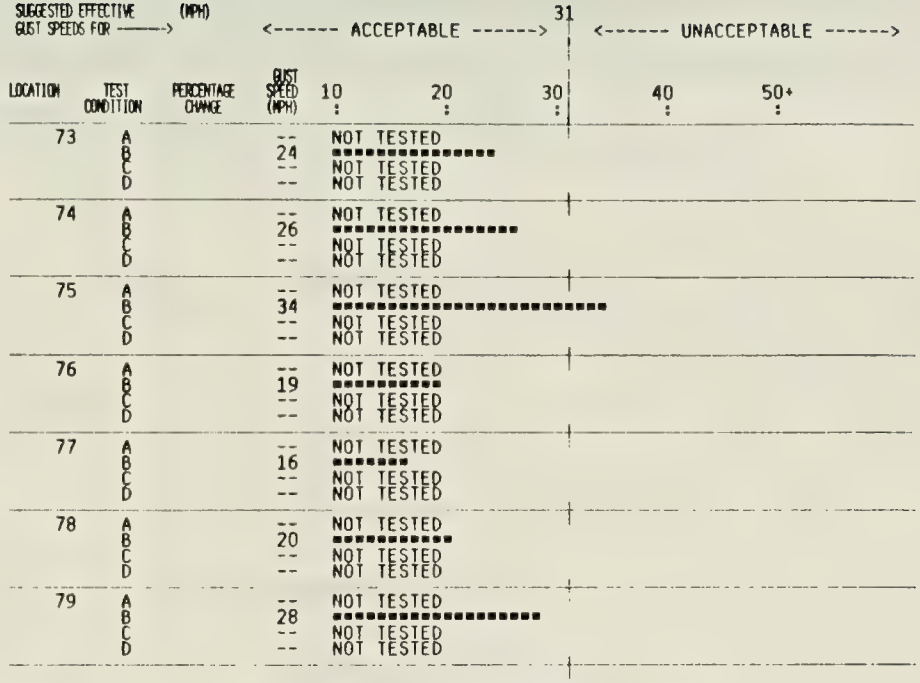
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C79
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER MEAN WIND SPEEDS



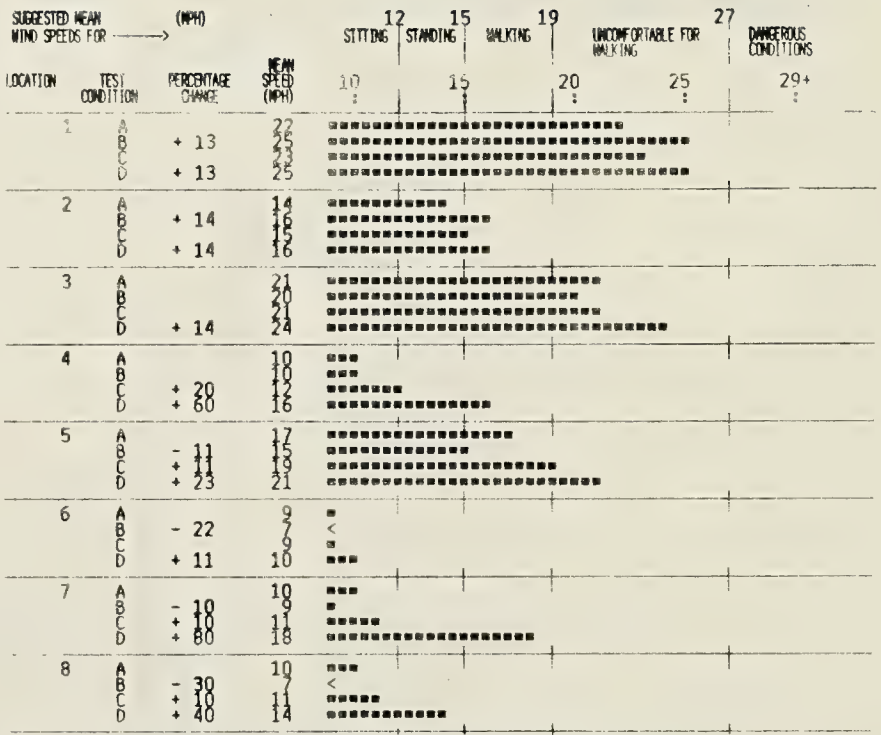
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C80
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

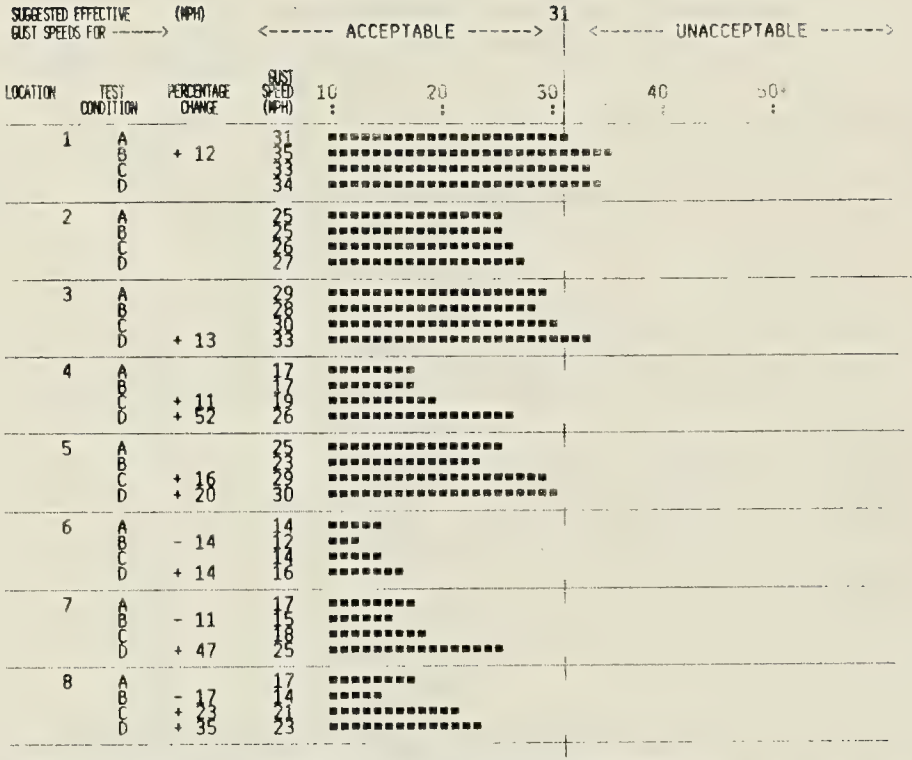
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C81

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

ANNUAL MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on Test Condition C comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C82

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

ANNUAL EFFECTIVE GUST SPEEDS

SUGGESTED MEAN WIND SPEEDS FOR ——> (MPH)

12 SITTING | 15 STANDING | 19 WALKING | 27 UNCOMFORTABLE FOR WALKING | DANGEROUS CONDITIONS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	10 :	15	20 :	25 :	29+ :
9	A		8	<				
	B	+ 12	9	■				
	C	+ 25	10	■■■				
	D	+ 25	10	■■■				
10	A		10	■■■				
	B		10	■■■				
	C	+ 30	13	■■■■■■■■■				
	D	+ 70	17	■■■■■■■■■■■■■■■■■				
11	A		10	■■■				
	B	+ 50	15	■■■■■■■■■■■■■				
	C	+ 40	14	■■■■■■■■■■■				
	D	+ 70	17	■■■■■■■■■■■■■■■■■				
12	A		10	■■■				
	B	+ 30	13	■■■■■■■■■				
	C	+ 50	15	■■■■■■■■■■■■■				
	D	+ 50	15	■■■■■■■■■■■■■				
13	A		11	■■■■■				
	B		12	■■■■■■■				
	C	+ 18	13	■■■■■■■■■				
	D	+ 36	15	■■■■■■■■■■■■■				
14	A		10	■■■				
	B	+ 20	12	■■■■■■■				
	C	+ 40	14	■■■■■■■■■■■				
	D	+ 30	13	■■■■■■■■■				
15	A		14	■■■■■■■■■■■				
	B	- 14	12	■■■■■■■				
	C		16	■■■■■■■■■■■■■				
	D	+ 42	20	■■■■■■■■■■■■■■■■■■■■■■■				
16	* A		11	■■■■■				
	B	+ 72	19	■■■■■■■■■■■■■■■■■■■■				
	C	+ 72	19	■■■■■■■■■■■■■■■■■■■■				
	D	+ 27	14	■■■■■■■■■■■■				

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C83
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
ANNUAL MEAN WIND SPEEDS

SUGGESTED EFFECTIVE GUST SPEEDS FOR ——> (MPH)

<------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------>

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	10 :	20 :	30 :	40 :	50+ :
9	A		14	■■■■■				
	B	+ 14	16	■■■■■■■				
	C	+ 28	18	■■■■■■■■■				
	D	+ 28	18	■■■■■■■■■				
10	A		16	■■■■■■■				
	B		17	■■■■■■■■				
	C	+ 43	23	■■■■■■■■■■■■				
	D	+ 62	26	■■■■■■■■■■■■■■■■■				
11	A		16	■■■■■■■				
	B	+ 50	24	■■■■■■■■■■■■■				
	C	+ 43	23	■■■■■■■■■■■■				
	D	+ 50	24	■■■■■■■■■■■■■				
12	A		19	■■■■■■■■■■				
	B		20	■■■■■■■■■■■				
	C	+ 36	26	■■■■■■■■■■■■■■■■■				
	D	+ 36	26	■■■■■■■■■■■■■■■■■				
13	A		18	■■■■■■■■■				
	B	+ 11	20	■■■■■■■■■■■				
	C	+ 27	23	■■■■■■■■■■■■■				
	D	+ 27	23	■■■■■■■■■■■■■				
14	A		17	■■■■■■■■				
	B	+ 11	19	■■■■■■■■■■				
	C	+ 41	24	■■■■■■■■■■■■■■				
	D	+ 29	22	■■■■■■■■■■■■				
15	A		26	■■■■■■■■■■■■■■■■■				
	B	- 26	19	■■■■■■■■■■■				
	C		24	■■■■■■■■■■■■■■■				
	D		28	■■■■■■■■■■■■■■■■■■■				
16	* A		15	■■■■■■				
	B	+ 86	28	■■■■■■■■■■■■■■■■■■■				
	C	+ 86	28	■■■■■■■■■■■■■■■■■■■				
	D	+ 40	21	■■■■■■■■■■■■■				

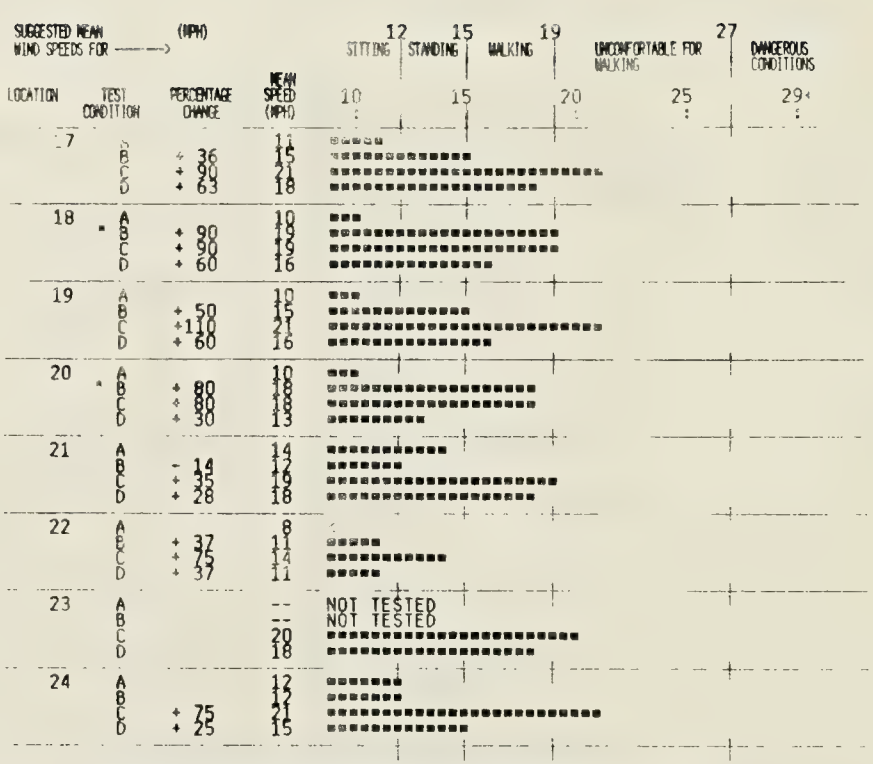
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on Test Condition C comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C84
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
ANNUAL EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

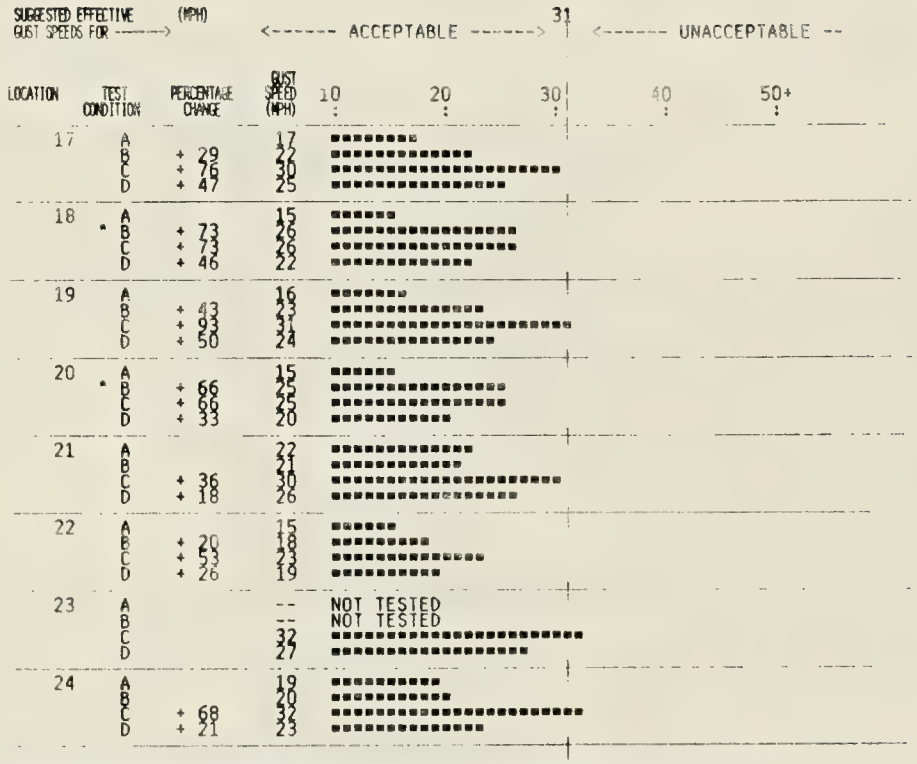
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C85

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

ANNUAL MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on Test Condition C comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C86

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

ANNUAL EFFECTIVE GUST SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)
25	A		11
*	B	+ 54	17
	C	+ 54	17
	D	+ 27	14
26	A		9
	B	+ 44	13
	C	+111	18
	D	+100	18
27	A		10
	B	+ 20	12
	C	+140	24
	D	+130	23
28	A		17
*	B	+ 23	21
	C	+ 23	21
	D	+ 23	21
29	A		9
	B	+ 33	12
	C	+166	24
	D	+222	29
30	A		14
	B	- 28	10
	C	+ 35	19
	D	+ 21	17
31	A		15
	B		14
	C	+ 33	20
	D	+ 53	23
32	A		13
	B	- 23	10
	C	+ 46	19
	D	+ 61	21

SUGGESTED MEAN WIND SPEEDS FOR ——> (MPH): 12 SITTING | 15 STANDING | 19 WALKING | 27 UNCOMFORTABLE FOR WALKING | DANGEROUS CONDITIONS

10 : 15 : 20 : 25 : 29+ :

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C87
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
ANNUAL MEAN WIND SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)
25	A		16
*	B	+ 62	26
	C	+ 62	26
	D	+ 37	22
26	A		15
	B	+ 33	20
	C	+ 93	29
	D	+ 80	27
27	A		17
	B	+ 17	20
	C	+105	35
	D	+ 94	33
28	A		25
*	B	+ 16	29
	C	+ 16	29
	D	+ 16	29
29	A		16
	B	+ 18	19
	C	+100	32
	D	+143	39
30	A		20
	B	- 10	18
	C	+ 45	29
	D	+ 30	26
31	A		23
	B		22
	C	+ 39	32
	D	+ 60	37
32	A		21
	B		19
	C	+ 33	28
	D	+ 57	33

SUGGESTED EFFECTIVE GUST SPEEDS FOR ——> (MPH): <------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------>

10 : 20 : 30 : 40 : 50+ :

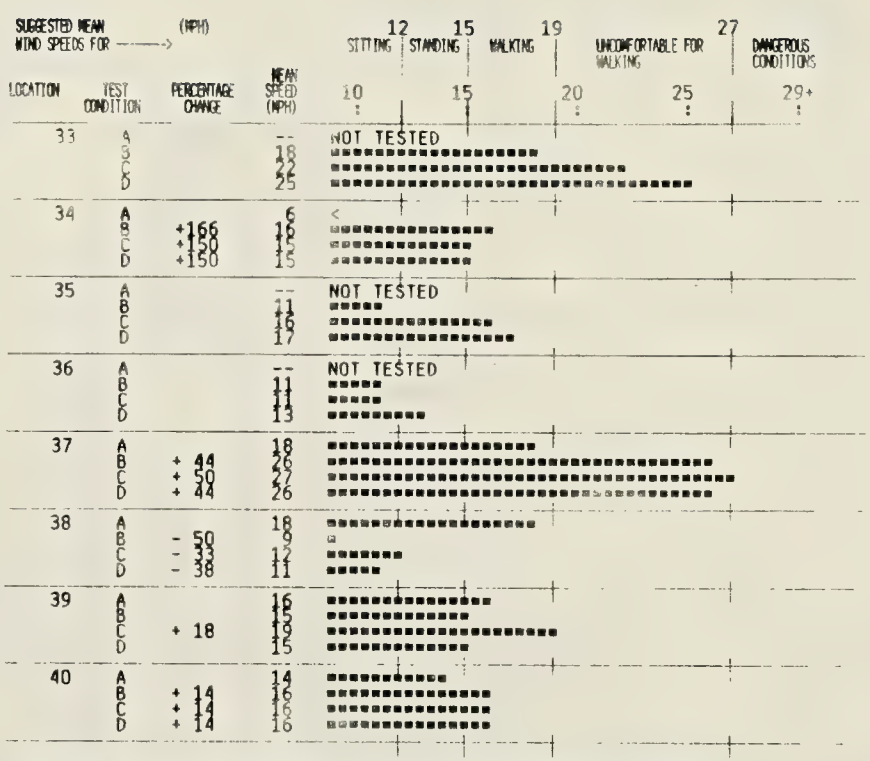
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on Test Condition C comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C88
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
ANNUAL EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

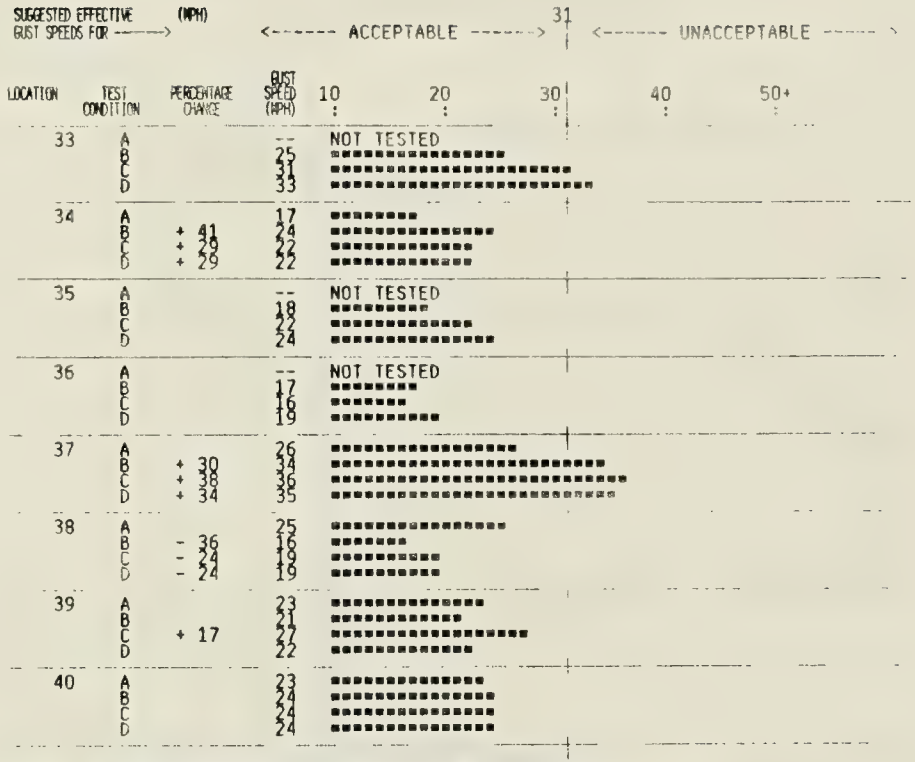
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C89

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

ANNUAL MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on Test Condition C comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

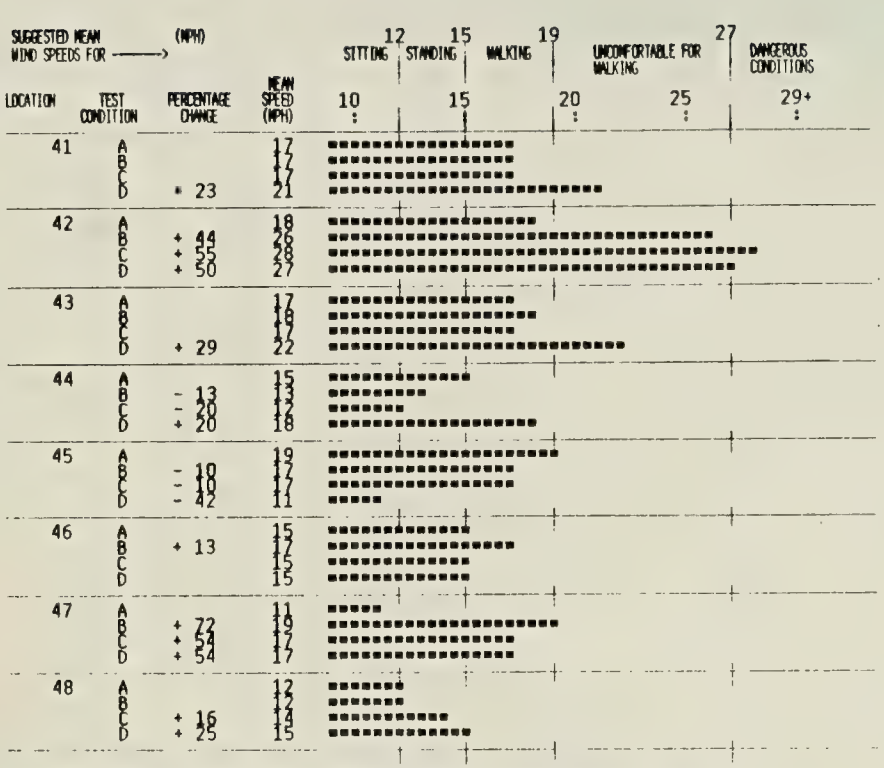
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C90

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

ANNUAL EFFECTIVE GUST SPEEDS



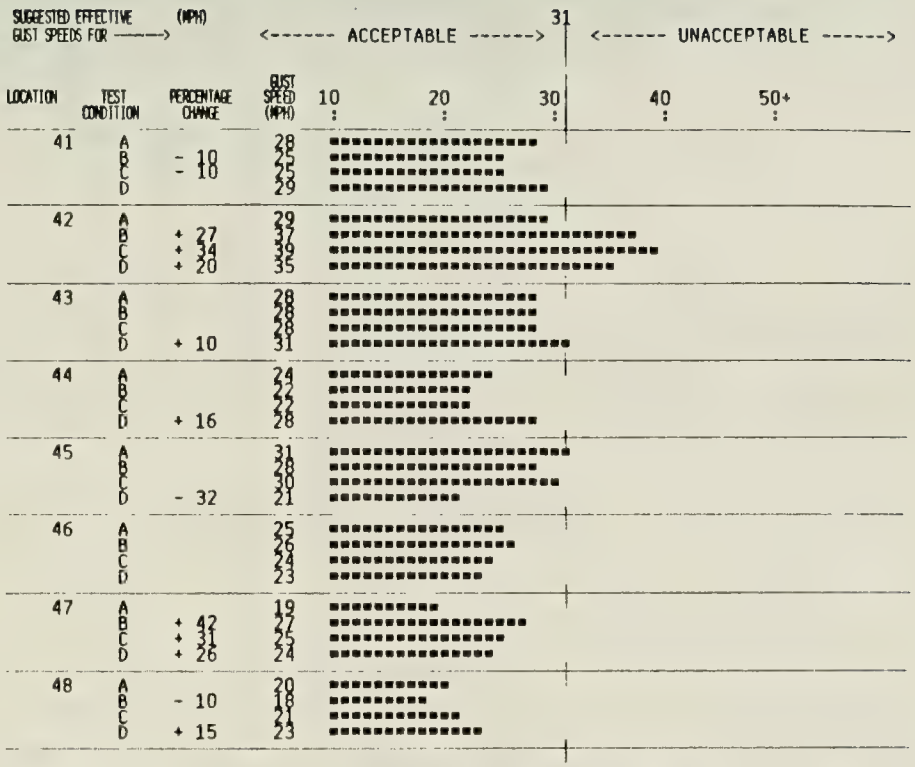
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C91
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
ANNUAL MEAN WIND SPEEDS



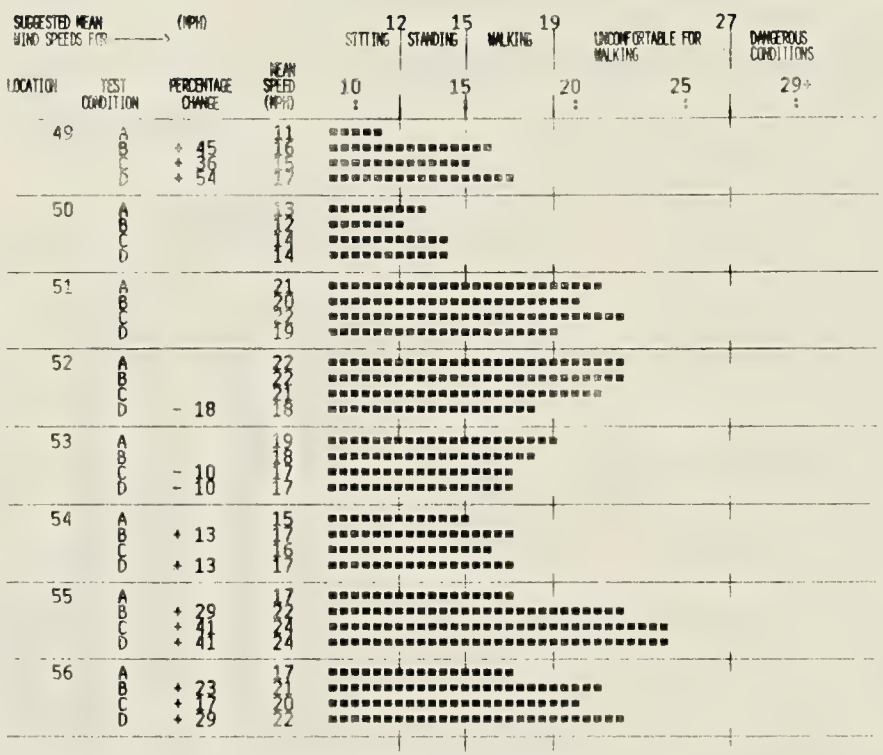
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on Test Condition C comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C92
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
ANNUAL EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

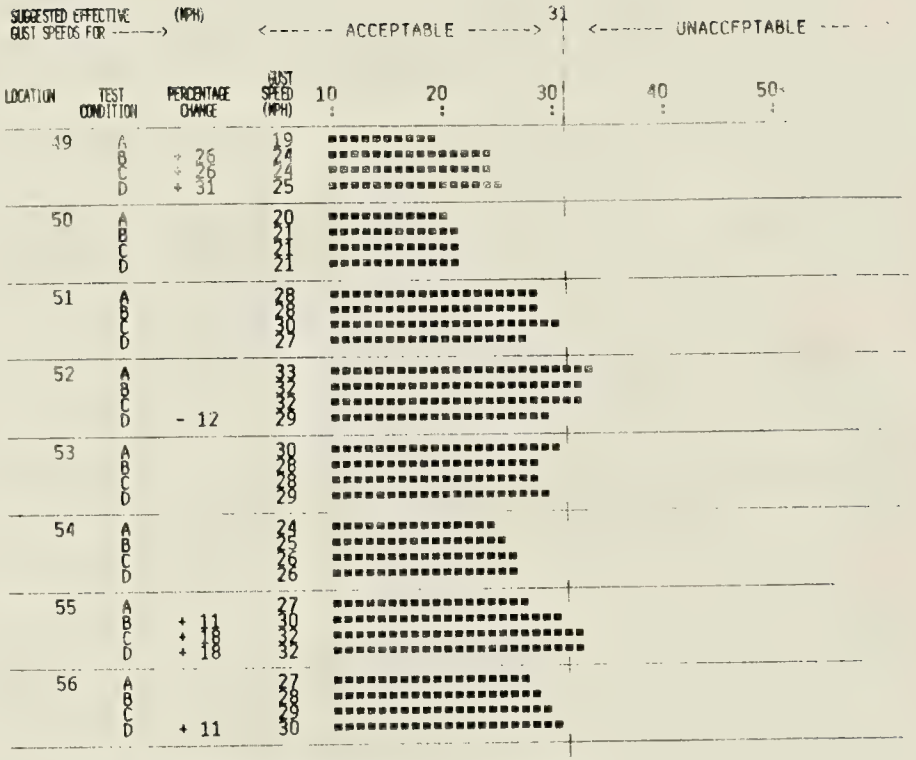
A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C93

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

ANNUAL MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on Test Condition C comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1990 EXISTING CONDITIONS
B	1993 NEW BOSTON GARDEN
C	1995 INTERIM - BUILD
D	2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C94

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

ANNUAL EFFECTIVE GUST SPEEDS

SUGGESTED MEAN WIND SPEEDS FOR ——> (MPH)

12 SITTING | 15 STANDING | 19 WALKING | 27 UNCOMFORTABLE FOR WALKING | DANGEROUS CONDITIONS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)
57	A		16
	B	+ 43	23
	C	+ 37	22
	D	+ 43	23
58	A		17
	B	+ 11	19
	C	+ 17	20
	D		18
59	A		18
	B	- 16	15
	C	- 11	16
	D	- 11	16
60	A		12
	B	+ 66	20
	C	+ 33	16
	D	+ 25	15
61	* A		17
	B		17
	C		17
	D		16
62	* A		19
	B	- 10	17
	C	- 10	17
	D	- 15	16
63	A		18
	B		18
	C		18
	D	- 27	13
64	A		12
	B		12
	C		12
	D	+ 25	15

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C95
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
ANNUAL MEAN WIND SPEEDS

SUGGESTED EFFECTIVE GUST SPEEDS FOR ——> (MPH)

<------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------>

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)
57	A		26
	B	+ 23	32
	C	+ 23	32
	D	+ 26	33
58	A		26
	B		28
	C	+ 11	29
	D		28
59	A		29
	B	- 20	23
	C	- 13	25
	D	- 13	25
60	A		22
	B	+ 40	31
	C	+ 22	27
	D	+ 18	26
61	* A		27
	B		27
	C		27
	D		25
62	* A		30
	B	- 16	25
	C	- 16	25
	D	- 16	25
63	A		23
	B		24
	C		24
	D		22
64	A		19
	B		19
	C		19
	D	+ 15	22

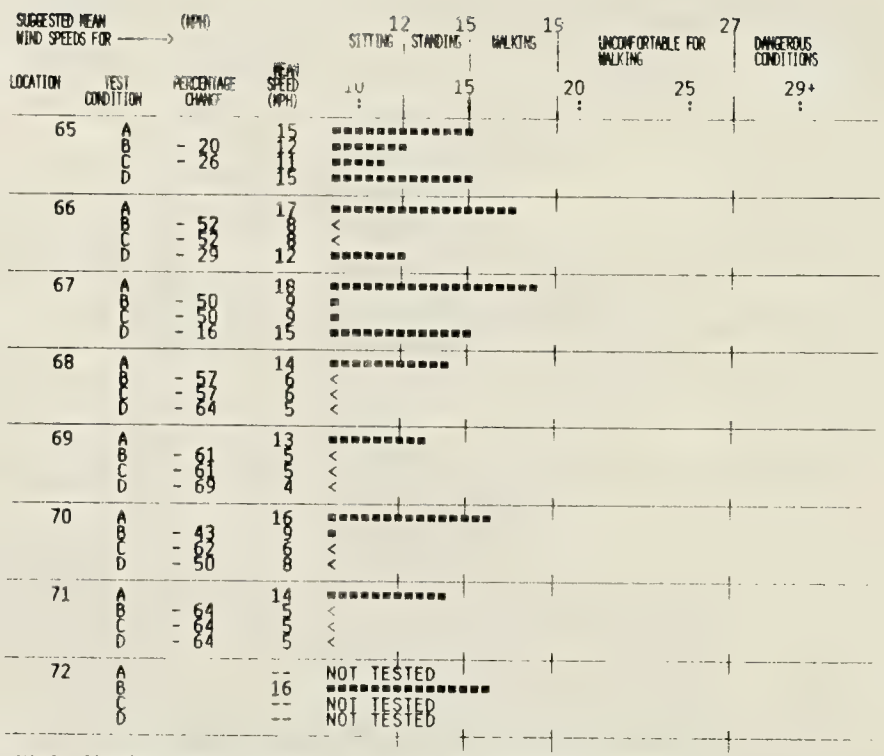
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on Test Condition C comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C96
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
ANNUAL EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

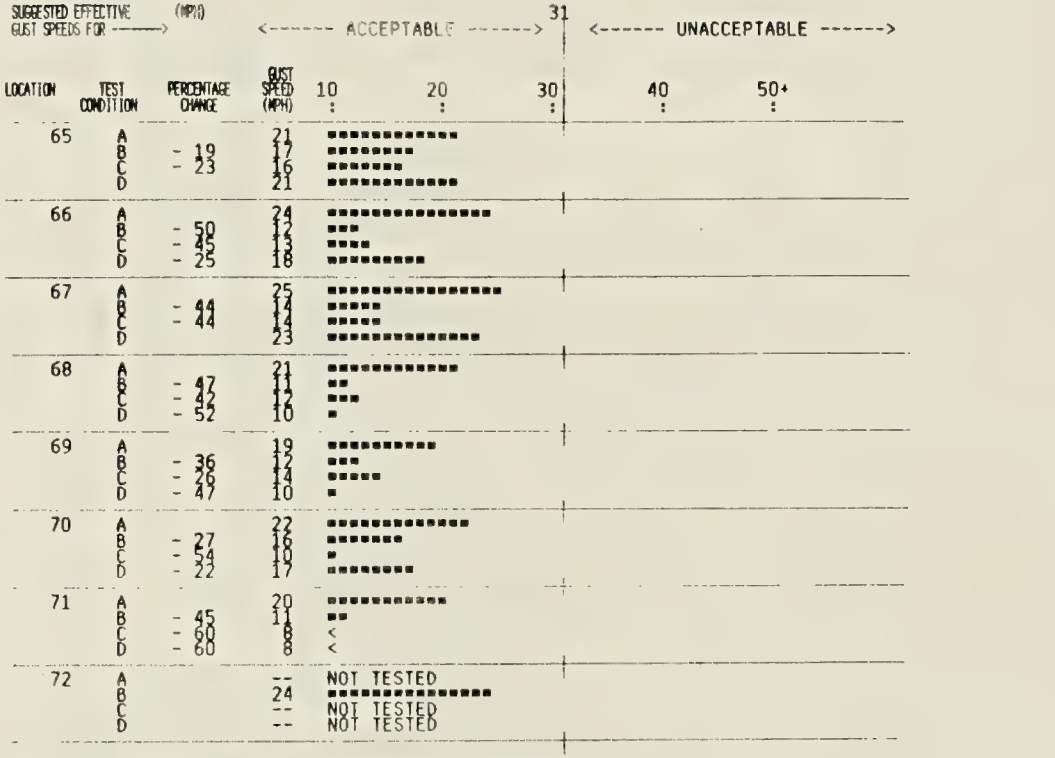
A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C97

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

ANNUAL MEAN WIND SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on Test Condition C comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C98

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

ANNUAL EFFECTIVE GUST SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	SUGGESTED MEAN WIND SPEEDS FOR ——> (MPH) 12 SITTING | 15 STANDING | 19 WALKING | 27 UNCOMFORTABLE FOR WALKING | DANGEROUS CONDITIONS
				10 : 15 : 20 : 25 : 29+ :
73	A		--	NOT TESTED
	B		15	■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
74	A		--	NOT TESTED
	B		16	■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
75	A		--	NOT TESTED
	B		23	■■■■■■■■■■■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
76	A		--	NOT TESTED
	B		10	■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
77	A		--	NOT TESTED
	B		9	■
	C		--	NOT TESTED
	D		--	NOT TESTED
78	A		--	NOT TESTED
	B		11	■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
79	A		--	NOT TESTED
	B		20	■■■■■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C99
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
ANNUAL MEAN WIND SPEEDS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	SUGGESTED EFFECTIVE GUST SPEEDS FOR ——> (MPH) <------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------>
				10 : 20 : 30 : 40 : 50+ :
73	A		--	NOT TESTED
	B		23	■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
74	A		--	NOT TESTED
	B		25	■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
75	A		--	NOT TESTED
	B		32	■■■■■■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
76	A		--	NOT TESTED
	B		18	■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
77	A		--	NOT TESTED
	B		15	■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
78	A		--	NOT TESTED
	B		19	■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED
79	A		--	NOT TESTED
	B		27	■■■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
	D		--	NOT TESTED

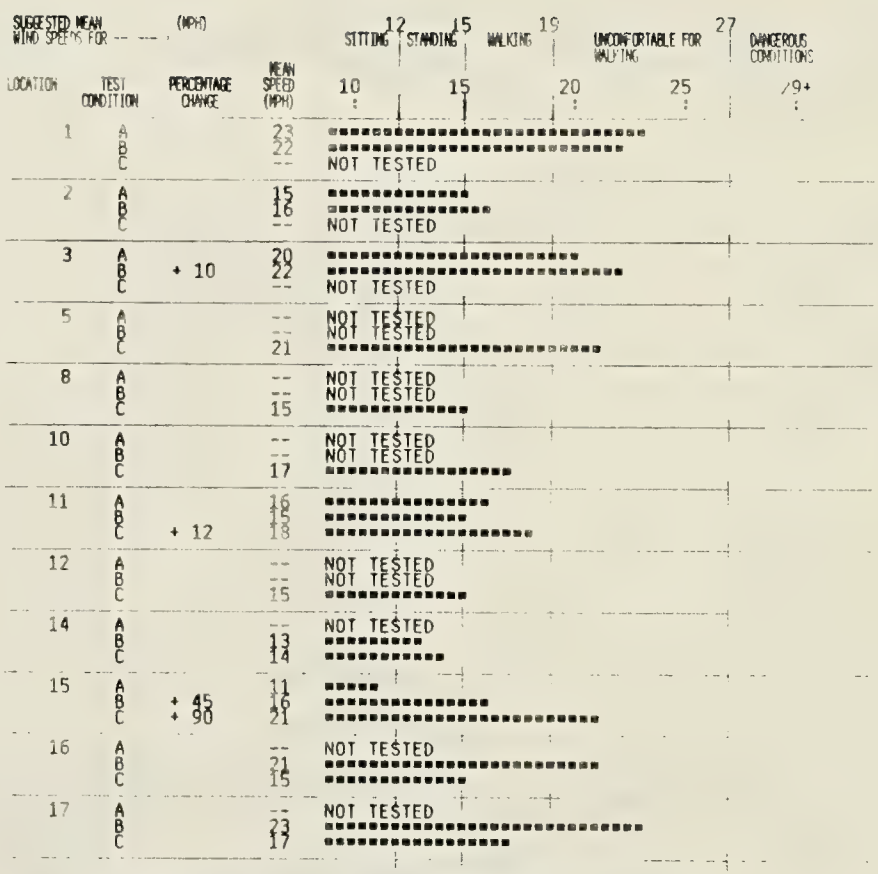
NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on Test Condition C comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1990 EXISTING CONDITIONS
B 1993 NEW BOSTON GARDEN
C 1995 INTERIM - BUILD
D 2000 FULL - BUILD

* Estimated value based on Test Condition C

TABLE WIND-C100
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
ANNUAL EFFECTIVE GUST SPEEDS



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

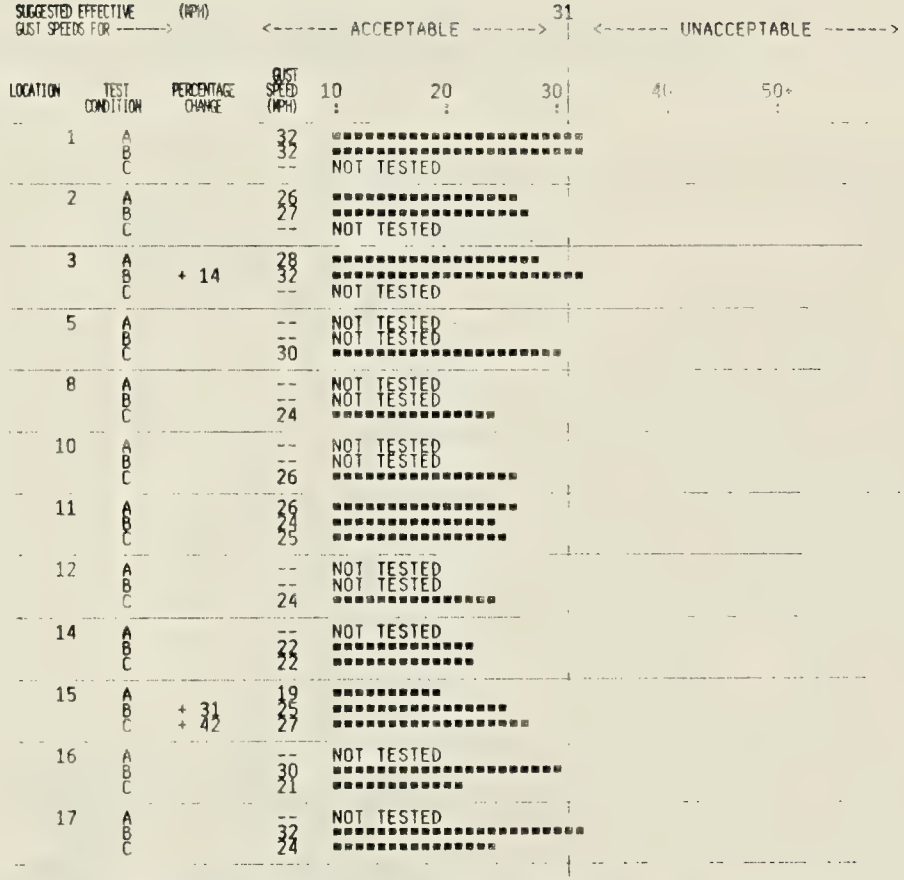
TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	2000 FULL-BUILD WITH MITIGATION

TABLE WIND-C101

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SPRING



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C102

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SPRING

SUGGESTED MEAN WIND SPEEDS FOR ——> (MPH)

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	SITTING (10)	STANDING (12–15)	WALKING (15–19)	UNCOMFORTABLE FOR WALKING (19–27)	DANGEROUS CONDITIONS (29+)
18	A		--	NOT TESTED				
	B		21			■■■■■■■■■■■■■■■■■■■■■■■■		
	C		15			■■■■■■■■■■■■■■		
19	A		--	NOT TESTED				
	B		21			■■■■■■■■■■■■■■■■■■■■■■■■		
	C		15			■■■■■■■■■■■■■■		
20	A		--	NOT TESTED				
	B		16			■■■■■■■■■■■■■■■		
	C		12			■■■■■■■		
21	A		--	NOT TESTED				
	B		20			■■■■■■■■■■■■■■■■■■■■■■		
	C		19			■■■■■■■■■■■■■■■■■■■■■		
22	A		10		■■■			
	B	+ 30	13		■■■■■■■■■			
	C		--	NOT TESTED				
23	A		--	NOT TESTED				
	B		21			■■■■■■■■■■■■■■■■■■■■■■■■		
	C		18			■■■■■■■■■■■■■■■■■■■■		
24	A		--	NOT TESTED				
	B		18			■■■■■■■■■■■■■■■■■■■■		
	C		14			■■■■■■■■■■■■■		
25	A		--	NOT TESTED				
	B		16			■■■■■■■■■■■■■■■		
	C		13			■■■■■■■■■■■■		
26	A		--	NOT TESTED				
	B		16			■■■■■■■■■■■■■■■		
	C		14			■■■■■■■■■■■■■		
27	A		--	NOT TESTED				
	B		21			■■■■■■■■■■■■■■■■■■■■■■■■		
	C		18			■■■■■■■■■■■■■■■■■■■■		
28	A		15			■■■■■■■■■■■■■■		
	B	+ 40	21			■■■■■■■■■■■■■■■■■■■■■■■■		
	C	+ 40	21			■■■■■■■■■■■■■■■■■■■■■■■■		
29	A		12			■■■■■■■		
	B	+ 33	16			■■■■■■■■■■■■■■■		
	C	+ 25	15			■■■■■■■■■■■■■■		

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	2000 FULL-BUILD WITH MITIGATION

TABLE WIND-C103
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SPRING

SUGGESTED EFFECTIVE GUST SPEEDS FOR ——> (MPH)

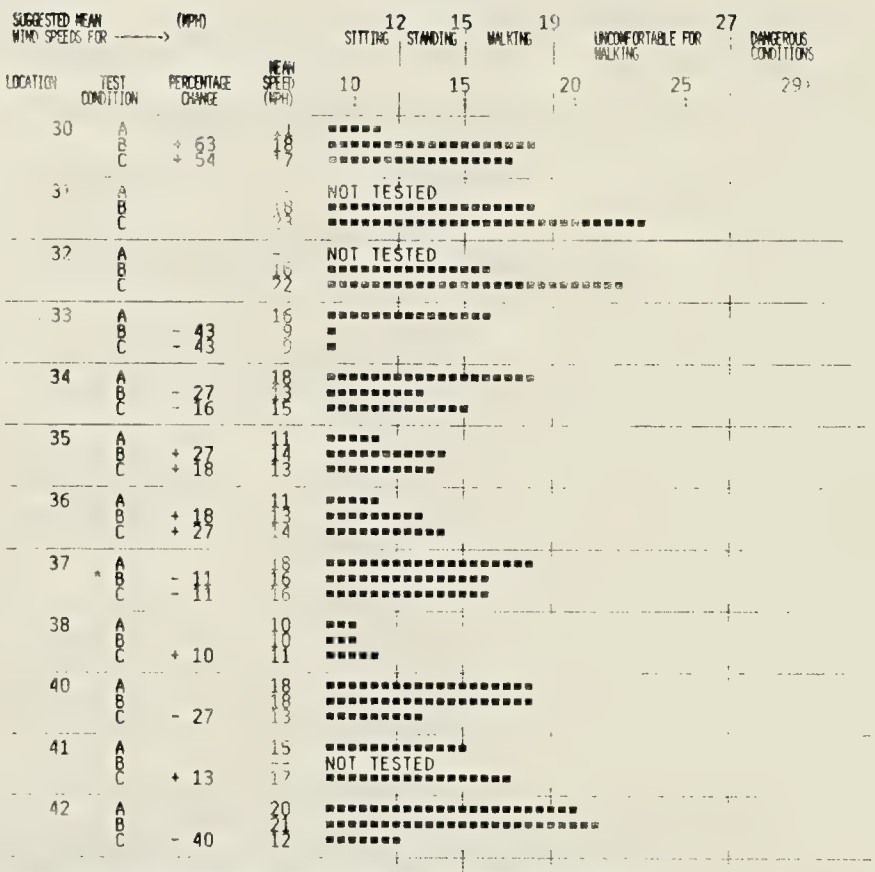
LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	<------ ACCEPTABLE ------> (10–30)	<------ UNACCEPTABLE ------> (30–40–50+)
18	A		--	NOT TESTED	
	B		29	■■■■■■■■■■■■■■■■■■■■	
	C		22	■■■■■■■■■■■■■■■	
19	A		--	NOT TESTED	
	B		29	■■■■■■■■■■■■■■■■■■■■	
	C		23	■■■■■■■■■■■■■■■■	
20	A		--	NOT TESTED	
	B		23	■■■■■■■■■■■■■■■■	
	C		20	■■■■■■■■■■■■■■	
21	A		--	NOT TESTED	
	B		29	■■■■■■■■■■■■■■■■■■■■	
	C		27	■■■■■■■■■■■■■■■■■■■	
22	A		19	■■■■■■■■■■■■■	
	B	+ 21	23	■■■■■■■■■■■■■■■■	
	C		--	NOT TESTED	
23	A		--	NOT TESTED	
	B		31	■■■■■■■■■■■■■■■■■■■■■■	
	C		28	■■■■■■■■■■■■■■■■■■■■	
24	A		--	NOT TESTED	
	B		28	■■■■■■■■■■■■■■■■■■■■	
	C		22	■■■■■■■■■■■■■■■	
25	A		--	NOT TESTED	
	B		23	■■■■■■■■■■■■■■■■	
	C		19	■■■■■■■■■■■■■	
26	A		--	NOT TESTED	
	B		25	■■■■■■■■■■■■■■■■■	
	C		21	■■■■■■■■■■■■■■■	
27	A		--	NOT TESTED	
	B		33	■■■■■■■■■■■■■■■■■■■■■■■	
	C		27	■■■■■■■■■■■■■■■■■■■	
28	A		23	■■■■■■■■■■■■■■■■	
	B	+ 21	28	■■■■■■■■■■■■■■■■■■■■	
	C	+ 26	29	■■■■■■■■■■■■■■■■■■■■	
29	A		20	■■■■■■■■■■■■■■	
	B	+ 20	24	■■■■■■■■■■■■■■■■■	
	C	+ 15	23	■■■■■■■■■■■■■■■■	

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C104
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SPRING



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

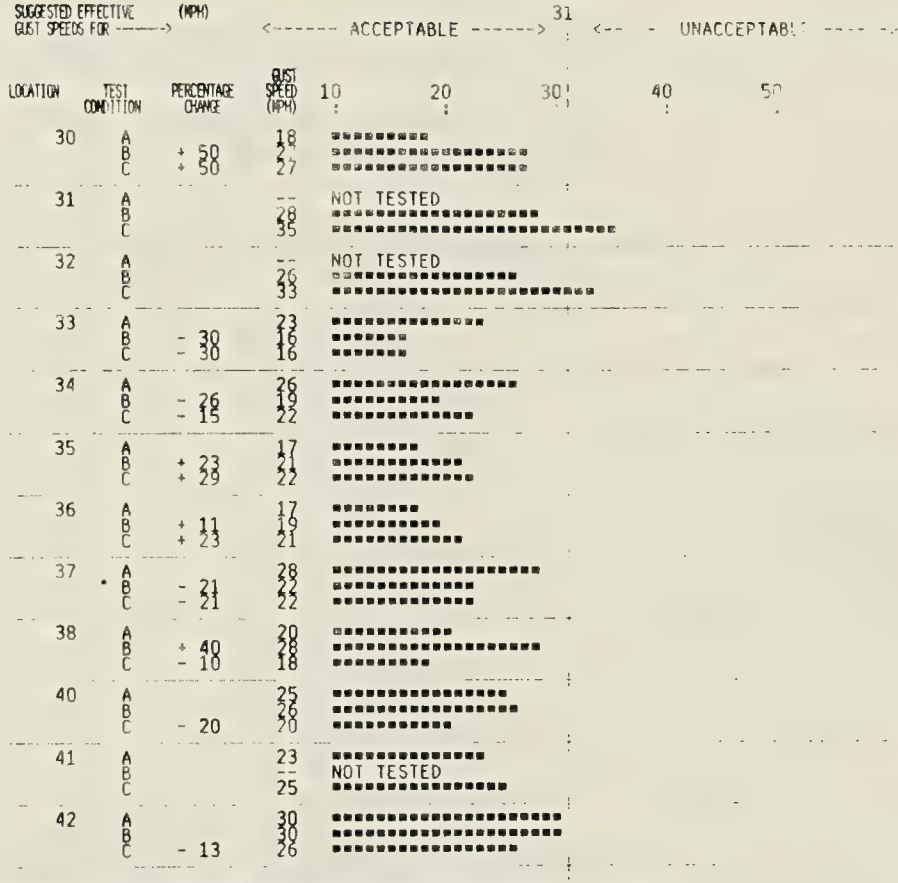
A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C 2000 FULL-BUILD WITH MITIGATION

\- Estimated value based on Test Condition C

TABLE WIND-C105

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SPRING



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C106

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SPRING

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)
43	A		18
	B		--
	C	- 33	12
44	A		13
	B		12
	C	+ 23	16
48	A		12
	B		12
	C	+ 16	14
50	A		14
	B		15
	C		--
51	A		22
	B		22
	C		--
52	A		22
	B		21
	C	- 18	18
53	A		18
	B		18
	C		--
54	A		14
	B		15
	C		--
55	A		15
	B	+ 26	19
	C	+ 60	24
56	A		17
	B		18
	C	+ 35	23
57	A		16
	B		17
	C	+ 43	23
58	A		16
	B	+ 12	18
	C		--

SUGGESTED MEAN WIND SPEEDS FOR ------> (MPH)

SITTING 12 | STANDING 15 | WALKING 19 | UNCOMFORTABLE FOR WALKING 27 | DANGEROUS CONDITIONS

MEAN SPEED (MPH): 10 : 15 : 20 : 25 : 29+

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C 2000 FULL-BUILD WITH MITIGATION

TABLE WIND-C107
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SPRING

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)
43	A		28
	B		--
	C	- 35	18
44	A		22
	B		22
	C	+ 13	25
48	A		19
	B		20
	C	+ 10	21
50	A		22
	B		23
	C		--
51	A		29
	B		30
	C		--
52	A		32
	B		32
	C		29
53	A		28
	B		27
	C		--
54	A		24
	B		23
	C		--
55	A		23
	B	+ 30	30
	C	+ 43	33
56	A		26
	B		28
	C	+ 19	31
57	A		25
	B		27
	C	+ 28	32
58	A		26
	B		27
	C		--

SUGGESTED EFFECTIVE GUST SPEEDS FOR ------> (MPH)

<------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------>

GUST SPEED (MPH): 10 : 20 : 30 : 40 : 50+

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

TABLE WIND-C108
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SPRING

SUGGESTED MEAN WIND SPEEDS FOR ——→ (MPH)

SITTING 12 | STANDING 15 | WALKING 19 | UNCOMFORTABLE FOR WALKING 27 | DANGEROUS CONDITIONS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)
59	A		19
	B		20
	C	--	NOT TESTED
60	A		17
	B	+ 11	19
	C	--	NOT TESTED
61	A		17
	B		18
	C	--	NOT TESTED
62	A		19
	B		20
	C	--	NOT TESTED
63	A		20
	B		20
	C	--	NOT TESTED
72	A		12
	B	+ 16	14
	C	- 16	10
73	A		15
	B		16
	C	--	NOT TESTED
75	A		14
	B		14
	C	- 57	6
76	A	--	NOT TESTED
	B		18
	C	--	NOT TESTED
79	A		13
	B	- 30	9
	C	- 23	10
80	A		22
	B	- 27	16
	C	- 18	18
81 *	A		21
	B		19
	C		19

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C 2000 FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C109

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SPRING

SUGGESTED EFFECTIVE GUST SPEEDS FOR ——→ (MPH)

<------ ACCEPTABLE ------> 31 | <------ UNACCEPTABLE ---

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)
59	A		29
	B		30
	C	--	NOT TESTED
60	A		27
	B	+ 11	30
	C	--	NOT TESTED
61	A		26
	B		27
	C	--	NOT TESTED
62	A		30
	B		31
	C	--	NOT TESTED
63	A		26
	B		26
	C	--	NOT TESTED
72	A		19
	B	+ 21	23
	C	- 26	14
73	A		22
	B		24
	C	--	NOT TESTED
75	A		20
	B	+ 10	22
	C	- 45	11
76	A	--	NOT TESTED
	B		26
	C	--	NOT TESTED
79	A		20
	B	- 20	16
	C	- 25	15
80	A		29
	B	- 20	23
	C		27
81 *	A		28
	B	- 10	25
	C	- 10	25

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

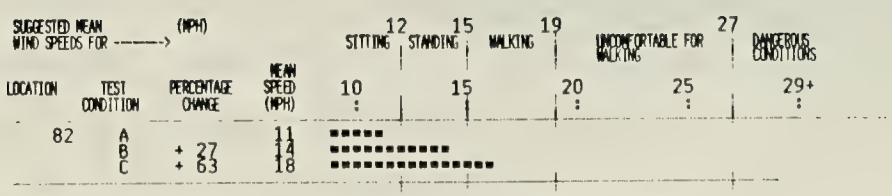
A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C110

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SPRING

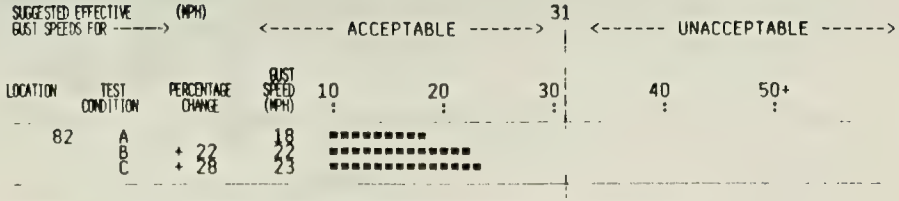


NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	2000 FULL-BUILD WITH MITIGATION

TABLE WIND-C111
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SPRING



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C112
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SPRING

SUGGESTED MEAN WIND SPEEDS FOR ——→ (MPH)

SITTING 12 | STANDING 15 | WALKING 19 | UNCOMFORTABLE FOR WALKING 27 | DANGEROUS CONDITIONS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	10 : 15 : 20 : 25 : 29+
1	A		20	■■■■■■■■■■■■■■■■■■■■
	B		19	■■■■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
2	A		12	■■■■■■■
	B		13	■■■■■■■■
	C		--	NOT TESTED
3	A		18	■■■■■■■■■■■■■■■■■
	B	+ 11	20	■■■■■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
5	A		--	NOT TESTED
	B		--	NOT TESTED
	C		17	■■■■■■■■■■■■■■■■
8	A		--	NOT TESTED
	B		--	NOT TESTED
	C		12	■■■■■■■
10	A		--	NOT TESTED
	B		--	NOT TESTED
	C		12	■■■■■■■
11	A		12	■■■■■■■
	B		12	■■■■■■■
	C	+ 25	15	■■■■■■■■■■■■■■■
12	A		--	NOT TESTED
	B		--	NOT TESTED
	C		12	■■■■■■■
14	A		--	NOT TESTED
	B		10	■■■■■■
	C		12	■■■■■■■
15	A		9	■■■■■
	B	+ 33	12	■■■■■■■
	C	+ 77	16	■■■■■■■■■■■■■■■■
16	A		--	NOT TESTED
	B		16	■■■■■■■■■■■■■■■■
	C		12	■■■■■■■
17	A		--	NOT TESTED
	B		17	■■■■■■■■■■■■■■■■■
	C		13	■■■■■■■■

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C113

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER

SUGGESTED EFFECTIVE GUST SPEEDS FOR ——→ (MPH)

<------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------>

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	10 : 20 : 30 : 40 : 50+
1	A		28	■■■■■■■■■■■■■■■■■■■■
	B		27	■■■■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
2	A		21	■■■■■■■■■■■■■■■
	B		22	■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
3	A		24	■■■■■■■■■■■■■■■■■
	B	+ 12	27	■■■■■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
5	A		--	NOT TESTED
	B		--	NOT TESTED
	C		24	■■■■■■■■■■■■■■■■■
8	A		--	NOT TESTED
	B		--	NOT TESTED
	C		19	■■■■■■■■■■■■■
10	A		--	NOT TESTED
	B		--	NOT TESTED
	C		19	■■■■■■■■■■■■■
11	A		20	■■■■■■■■■■■■■■
	B		19	■■■■■■■■■■■■■
	C		21	■■■■■■■■■■■■■■■
12	A		--	NOT TESTED
	B		--	NOT TESTED
	C		18	■■■■■■■■■■■■
14	A		--	NOT TESTED
	B		17	■■■■■■■■■■■
	C		18	■■■■■■■■■■■■
15	A		15	■■■■■■■■■■
	B	+ 26	18	■■■■■■■■■■■■
	C	+ 40	21	■■■■■■■■■■■■■■■
16	A		--	NOT TESTED
	B		23	■■■■■■■■■■■■■■■■
	C		17	■■■■■■■■■■■
17	A		--	NOT TESTED
	B		24	■■■■■■■■■■■■■■■■■
	C		19	■■■■■■■■■■■■■

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

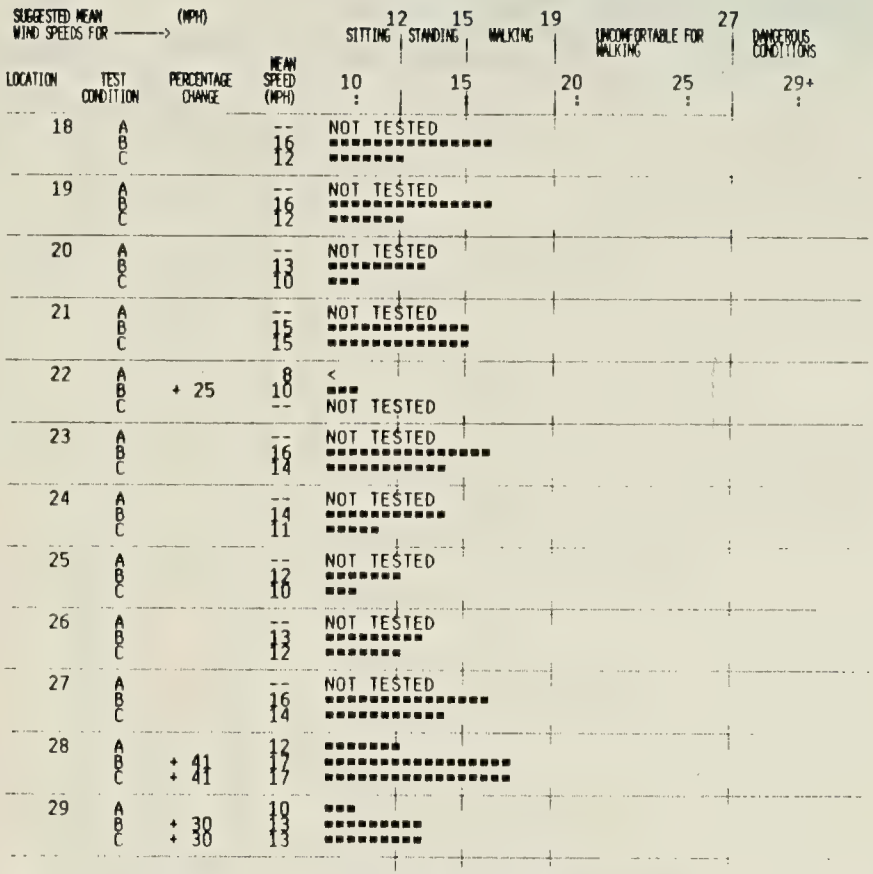
TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C114

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

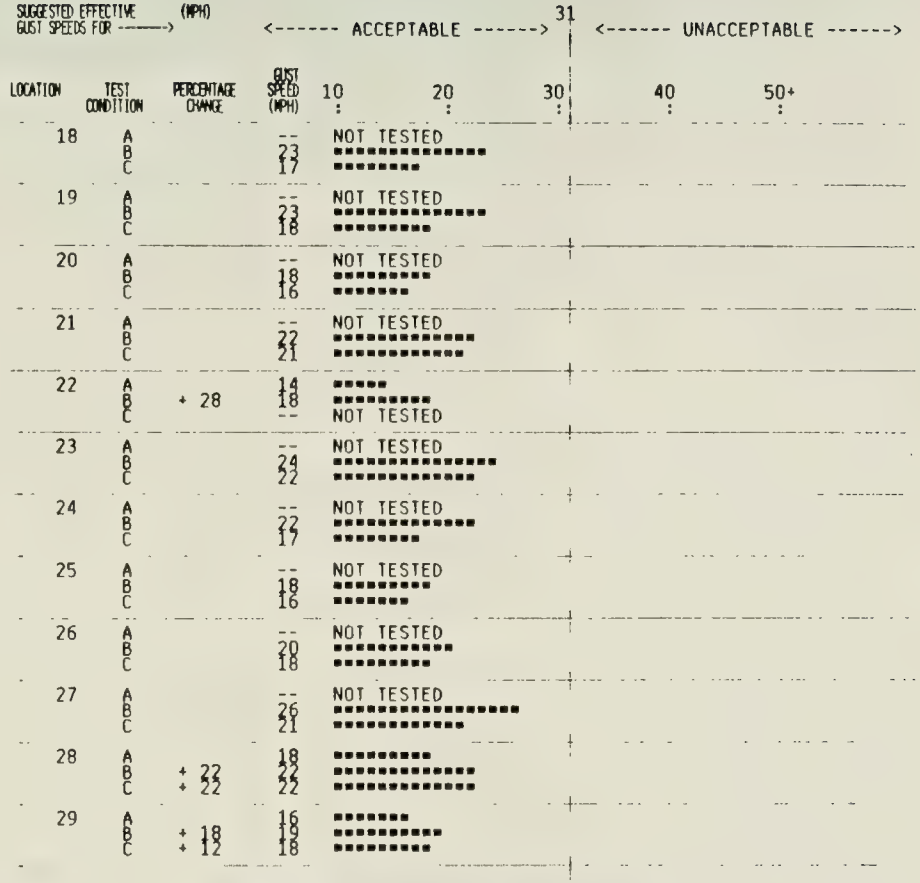
TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C115

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C116

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER

SUGGESTED MEAN WIND SPEEDS FOR — —> (MPH)

SITTING | STANDING | WALKING | UNCOMFORTABLE FOR WALKING | DANGEROUS CONDITIONS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	10 : 12	15	19	20	25	27 29+
30	A		8	<					
	B	+ 75	14	■■■■■■■■■■■■					
	C	+ 75	14	■■■■■■■■■■■■					
31	A		--	NOT TESTED					
	B		13	■■■■■■■■■■					
	C		17	■■■■■■■■■■■■■■■■■					
32	A		--	NOT TESTED					
	B		12	■■■■■■■■■■					
	C		16	■■■■■■■■■■■■■■■					
33	A		12	■■■■■■■■■■					
	B	- 33	8	<					
	C	- 41	7	<					
34	A		15	■■■■■■■■■■■■■■					
	B	- 26	11	■■■■■■■■■■					
	C	- 26	11	■■■■■■■■■■					
35	A		9	■■■■■■■■					
	B	+ 11	10	■■■■■■■■■					
	C	+ 11	10	■■■■■■■■■					
36	A		8	<					
	B	+ 12	9	■■■■■■■■					
	C	+ 37	11	■■■■■■■■■■					
37 *	A		13	■■■■■■■■■■■■					
	B		12	■■■■■■■■■■■					
	C		12	■■■■■■■■■■■					
38	A		8	<					
	B		8	<					
	C		8	<					
40	A		12	■■■■■■■■■■■					
	B		13	■■■■■■■■■■■■					
	C		11	■■■■■■■■■■					
41	A		12	■■■■■■■■■■■					
	B		--	NOT TESTED					
	C	+ 16	14	■■■■■■■■■■■■■					
42	A		15	■■■■■■■■■■■■■■					
	B		16	■■■■■■■■■■■■■■■					
	C	- 33	10	■■■■■■■■■					

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C17

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER

SUGGESTED EFFECTIVE GUST SPEEDS FOR ——> (MPH)

<------ ACCEPTABLE - --> 3 | --- UNACCEPTABLE - -- >

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	10 : 20	30	40	50+
30	A		15	■■■■■■■■■■■■■■			
	B	+ 46	22	■■■■■■■■■■■■■■■■■■■■■			
	C	+ 40	21	■■■■■■■■■■■■■■■■■■■■			
31	A		--	NOT TESTED			
	B		24	■■■■■■■■■■■■■■■■■■■■■■■			
	C		27	■■■■■■■■■■■■■■■■■■■■■■■■■■			
32	A		--	NOT TESTED			
	B		19	■■■■■■■■■■■■■■■■■■			
	C		25	■■■■■■■■■■■■■■■■■■■■■■■■			
33	A		18	■■■■■■■■■■■■■■■■■			
	B	- 33	12	■■■■■■■■■■■			
	C	- 33	12	■■■■■■■■■■■			
34	A		21	■■■■■■■■■■■■■■■■■■■■			
	B	- 28	15	■■■■■■■■■■■■■■			
	C	- 19	17	■■■■■■■■■■■■■■■■			
35	A		13	■■■■■■■■■■■■			
	B	+ 23	16	■■■■■■■■■■■■■■■			
	C	+ 30	17	■■■■■■■■■■■■■■■■			
36	A		13	■■■■■■■■■■■■			
	B		14	■■■■■■■■■■■■■			
	C	+ 23	16	■■■■■■■■■■■■■■■			
37 *	A		25	■■■■■■■■■■■■■■■■■■■■■■■			
	B	- 32	17	■■■■■■■■■■■■■■■■			
	C	- 32	17	■■■■■■■■■■■■■■■■			
38	A		15	■■■■■■■■■■■■■■			
	B	+ 60	24	■■■■■■■■■■■■■■■■■■■■■■			
	C	- 13	13	■■■■■■■■■■■■			
40	A		19	■■■■■■■■■■■■■■■■■■			
	B		19	■■■■■■■■■■■■■■■■■■			
	C	- 16	16	■■■■■■■■■■■■■■■			
41	A		19	■■■■■■■■■■■■■■■■■■			
	B		--	NOT TESTED			
	C	+ 10	21	■■■■■■■■■■■■■■■■■■■■			
42	A		22	■■■■■■■■■■■■■■■■■■■■■			
	B		22	■■■■■■■■■■■■■■■■■■■■■			
	C		21	■■■■■■■■■■■■■■■■■■■■			

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

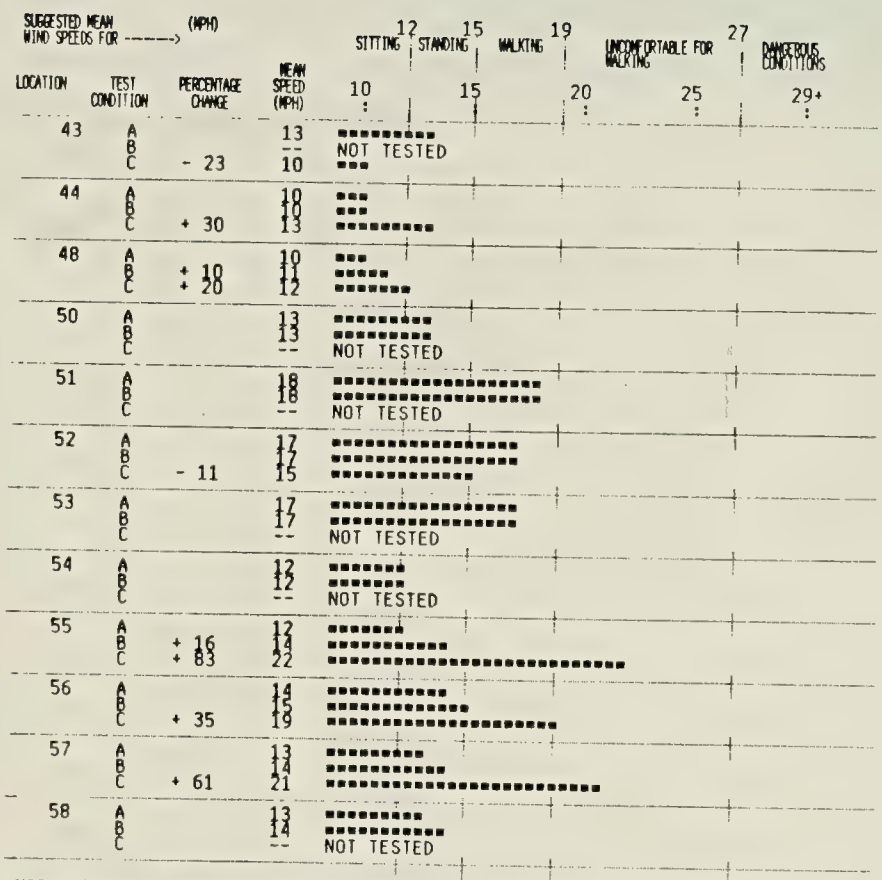
A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C118

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER

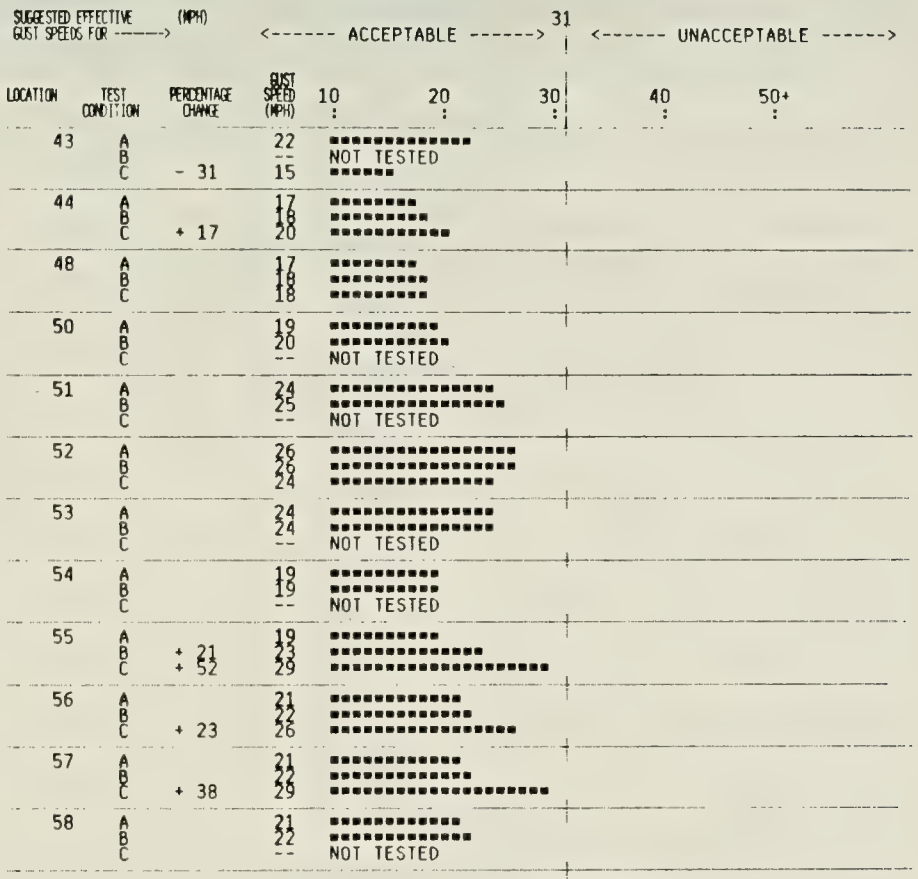


NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

TABLE WIND-C119
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SUMMER



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

TABLE WIND-C120
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SUMMER

SUGGESTED MEAN WIND SPEEDS FOR ——→ (MPH)

SITTING 12 | STANDING 15 | WALKING 19 | UNCOMFORTABLE FOR WALKING 27 | DANGEROUS CONDITIONS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	10 : 15 : 20 : 25 : 29+
59	A		15	■■■■■■■■■■■■■■
	B		16	■■■■■■■■■■■■■■■
	C		--	NOT TESTED
60	A		14	■■■■■■■■■■■■
	B	+ 14	16	■■■■■■■■■■■■■■■
	C		--	NOT TESTED
61	A		14	■■■■■■■■■■■■
	B		14	■■■■■■■■■■■■
	C		--	NOT TESTED
62	A		16	■■■■■■■■■■■■■■■
	B		16	■■■■■■■■■■■■■■■
	C		--	NOT TESTED
63	A		15	■■■■■■■■■■■■■
	B		15	■■■■■■■■■■■■■
	C		--	NOT TESTED
72	A		10	■■■
	B	+ 10	11	■■■■■
	C	- 20	8	<
73	A		12	■■■■■■■
	B		13	■■■■■■■■■
	C		--	NOT TESTED
75	A		11	■■■■■
	B		11	■■■■■
	C	- 54	5	<
76	A		--	NOT TESTED
	B		14	■■■■■■■■■■■■
	C		--	NOT TESTED
79	A		11	■■■■■
	B	- 36	7	<
	C	- 27	8	<
80	A		18	■■■■■■■■■■■■■■■■■■
	B	- 27	13	■■■■■■■■■■■
	C	- 22	14	■■■■■■■■■■■■
81 *	A		16	■■■■■■■■■■■■■■■
	B	- 12	14	■■■■■■■■■■■■
	C	- 12	14	■■■■■■■■■■■■

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C121

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER

SUGGESTED EFFECTIVE GUST SPEEDS FOR ——→ (MPH)

<------ ACCEPTABLE ------> 31 --- UNACCEPTABLE ------>

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	10 : 20 : 30 : 40 : 50+
59	A		24	■■■■■■■■■■■■■■■
	B		24	■■■■■■■■■■■■■■■
	C		--	NOT TESTED
60	A		22	■■■■■■■■■■■■■
	B	+ 13	25	■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
61	A		22	■■■■■■■■■■■■■
	B		22	■■■■■■■■■■■■■
	C		--	NOT TESTED
62	A		25	■■■■■■■■■■■■■■■■
	B		25	■■■■■■■■■■■■■■■■
	C		--	NOT TESTED
63	A		20	■■■■■■■■■■■
	B		20	■■■■■■■■■■■
	C		--	NOT TESTED
72	A		16	■■■■■■■■
	B		17	■■■■■■■■■
	C	- 25	12	■■■
73	A		18	■■■■■■■■■■
	B		19	■■■■■■■■■■■
	C		--	NOT TESTED
75	A		16	■■■■■■■■
	B		17	■■■■■■■■■
	C	- 37	10	■
76	A		--	NOT TESTED
	B		20	■■■■■■■■■■■
	C		--	NOT TESTED
79	A		17	■■■■■■■■■
	B	- 29	12	■■■
	C	- 29	12	■■■
80	A		23	■■■■■■■■■■■■■
	B	- 21	18	■■■■■■■■■■
	C		21	■■■■■■■■■■■■
81 *	A		21	■■■■■■■■■■■■
	B	- 14	18	■■■■■■■■■■
	C	- 14	18	■■■■■■■■■■

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

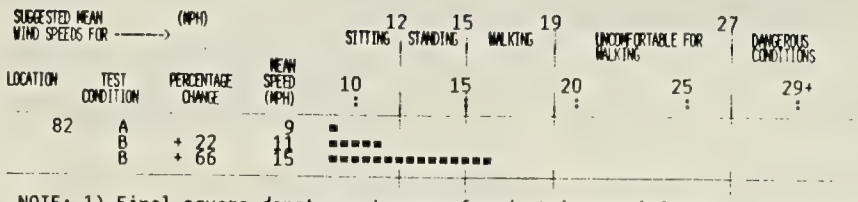
A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C122

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

SUMMER

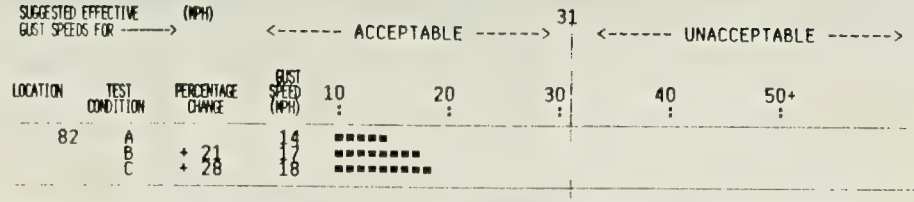


NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C123
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SUMMER



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C124
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
SUMMER

SUGGESTED MEAN WIND SPEEDS FOR ——→ (MPH)

SITTING 12 | STANDING 15 | WALKING 19 | UNCOMFORTABLE FOR WALKING 27 | DANGEROUS CONDITIONS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	10 15 20 25 29+
1	A		23	
	B		22	
	C		--	NOT TESTED
2	A		15	
	B		16	
	C		--	NOT TESTED
3	A		20	
	B	+ 15	23	
	C		--	NOT TESTED
5	A		--	NOT TESTED
	B		--	NOT TESTED
	C		21	
8	A		--	NOT TESTED
	B		--	NOT TESTED
	C		15	
10	A		--	NOT TESTED
	B		--	NOT TESTED
	C		16	
11	A		15	
	B		15	
	C	+ 20	18	
12	A		--	NOT TESTED
	B		--	NOT TESTED
	C		15	
14	A		--	NOT TESTED
	B		13	
	C		14	
15	A		11	
	B	+ 36	15	
	C	+ 81	20	
16	A		--	NOT TESTED
	B		19	
	C		14	
17	A		--	NOT TESTED
	B		21	
	C		16	

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C125

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

AUTUMN

SUGGESTED EFFECTIVE GUST SPEEDS FOR ——→ (MPH)

<------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	10 20 30 40 50+
1	A		33	
	B		32	
	C		--	NOT TESTED
2	A		25	
	B		27	
	C		--	NOT TESTED
3	A		29	
	B	+ 10	32	
	C		--	NOT TESTED
5	A		--	NOT TESTED
	B		--	NOT TESTED
	C		30	
8	A		--	NOT TESTED
	B		--	NOT TESTED
	C		23	
10	A		--	NOT TESTED
	B		--	NOT TESTED
	C		25	
11	A		24	
	B		23	
	C		25	
12	A		--	NOT TESTED
	B		--	NOT TESTED
	C		23	
14	A		--	NOT TESTED
	B		22	
	C		22	
15	A		19	
	B	+ 26	24	
	C	+ 36	26	
16	A		--	NOT TESTED
	B		29	
	C		20	
17	A		--	NOT TESTED
	B		30	
	C		23	

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C126

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

AUTUMN

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	SUGGESTED MEAN WIND SPEEDS FOR ------> (MPH) 12 SITTING / 15 STANDING / 19 WALKING / 27 UNCOMFORTABLE FOR WALKING / DANGEROUS CONDITIONS
				10 15 20 25 29+
18	A		--	NOT TESTED
	B		20	
	C		14	
19	A		--	NOT TESTED
	B		20	
	C		14	
20	A		--	NOT TESTED
	B		16	
	C		12	
21	A		--	NOT TESTED
	B		18	
	C		18	
22	A		10	
	B	+ 30	13	
	C		--	NOT TESTED
23	A		--	NOT TESTED
	B		20	
	C		18	
24	A		--	NOT TESTED
	B		18	
	C		13	
25	A		--	NOT TESTED
	B		15	
	C		12	
26	A		--	NOT TESTED
	B		15	
	C		13	
27	A		--	NOT TESTED
	B		20	
	C		18	
28	A		15	
	B	+ 33	20	
	C	+ 40	21	
29	A		12	
	B	+ 25	15	
	C	+ 25	15	

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

TABLE WIND-C127

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

AUTUMN

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	SUGGESTED EFFECTIVE GUST SPEEDS FOR ------> (MPH) <------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------>
				10 20 30 40 50+
18	A		--	NOT TESTED
	B		28	
	C		21	
19	A		--	NOT TESTED
	B		28	
	C		22	
20	A		--	NOT TESTED
	B		23	
	C		19	
21	A		--	NOT TESTED
	B		28	
	C		26	
22	A		18	
	B	+ 22	22	
	C		--	NOT TESTED
23	A		--	NOT TESTED
	B		30	
	C		27	
24	A		--	NOT TESTED
	B		27	
	C		21	
25	A		--	NOT TESTED
	B		22	
	C		19	
26	A		--	NOT TESTED
	B		24	
	C		20	
27	A		--	NOT TESTED
	B		32	
	C		26	
28	A		22	
	B	+ 22	27	
	C	+ 22	27	
29	A		20	
	B	+ 15	23	
	C	+ 10	22	

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

TABLE WIND-C128

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

AUTUMN

SUGGESTED MEAN WIND SPEEDS FOR ——→ (MPH)

12 SITTING | 15 STANDING | 19 WALKING | 27 UNCOMFORTABLE FOR WALKING | DANGEROUS CONDITIONS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	10	15	20	25	29+
30	A		11	■■■■■				
	B	+ 54	17	■■■■■■■■■■■■■■■■				
	C	+ 54	17	■■■■■■■■■■■■■■■■				
31	A		--	NOT TESTED				
	B		17	■■■■■■■■■■■■■■■■				
	C		23	■■■■■■■■■■■■■■■■■■■■■■■■■■■■				
32	A		--	NOT TESTED				
	B		16	■■■■■■■■■■■■■■■				
	C		21	■■■■■■■■■■■■■■■■■■■■■■				
33	A		16	■■■■■■■■■■■■■■■				
	B	- 43	9	■				
	C	- 43	9	■				
34	A		18	■■■■■■■■■■■■■■■■■■				
	B	- 27	13	■■■■■■■■■■■■				
	C	- 22	14	■■■■■■■■■■■■■				
35	A		11	■■■■■				
	B	+ 18	13	■■■■■■■■■■■■				
	C		12	■■■■■■■■■■■				
36	A		11	■■■■■				
	B		12	■■■■■■■■■■■				
	C	+ 27	14	■■■■■■■■■■■■■				
37	A		17	■■■■■■■■■■■■■■■■				
*	B	- 11	15	■■■■■■■■■■■■■■				
	C	- 11	15	■■■■■■■■■■■■■■				
38	A		10	■■■■■■■■■				
	B		10	■■■■■■■■■				
	C	+ 10	11	■■■■■■■■■■				
40	A		16	■■■■■■■■■■■■■■■				
	B		17	■■■■■■■■■■■■■■■■				
	C	- 18	13	■■■■■■■■■■■■				
41	A		15	■■■■■■■■■■■■■■				
	B		--	NOT TESTED				
	C	+ 13	17	■■■■■■■■■■■■■■■■				
42	A		20	■■■■■■■■■■■■■■■■■■■■				
	B		20	■■■■■■■■■■■■■■■■■■■■				
	C	- 40	12	■■■■■■■■■■■				

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C129

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

AUTUMN

SUGGESTED EFFECTIVE GUST SPEEDS FOR ——→ (MPH)

<------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------>

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	10	20	30	40	50+
30	A		18	■■■■■■■■■				
	B	+ 50	27	■■■■■■■■■■■■■■				
	C	+ 50	27	■■■■■■■■■■■■■■				
31	A		--	NOT TESTED				
	B		27	■■■■■■■■■■■■■■				
	C		35	■■■■■■■■■■■■■■■■■■■				
32	A		--	NOT TESTED				
	B		25	■■■■■■■■■■■■■				
	C		32	■■■■■■■■■■■■■■■■■				
33	A		23	■■■■■■■■■■■■				
	B	- 30	16	■■■■■■■■				
	C	- 34	15	■■■■■■■				
34	A		25	■■■■■■■■■■■■■				
	B	- 24	19	■■■■■■■■■■				
	C	- 12	22	■■■■■■■■■■■■				
35	A		17	■■■■■■■■■				
	B	+ 17	20	■■■■■■■■■■■				
	C	+ 23	21	■■■■■■■■■■■■				
36	A		16	■■■■■■■■				
	B	+ 12	18	■■■■■■■■■■				
	C	+ 25	20	■■■■■■■■■■■				
37	A		29	■■■■■■■■■■■■■■■■				
*	B	- 27	21	■■■■■■■■■■■■				
	C	- 27	21	■■■■■■■■■■■■				
38	A		19	■■■■■■■■■■■				
	B	+ 47	28	■■■■■■■■■■■■■■■■				
	C	- 10	17	■■■■■■■■■				
40	A		24	■■■■■■■■■■■■■■				
	B		25	■■■■■■■■■■■■■■■				
	C	- 12	21	■■■■■■■■■■■■				
41	A		23	■■■■■■■■■■■■■				
	B		--	NOT TESTED				
	C		25	■■■■■■■■■■■■■■■				
42	A		29	■■■■■■■■■■■■■■■■■				
	B		29	■■■■■■■■■■■■■■■■■				
	C	- 13	25	■■■■■■■■■■■■■■■				

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C130

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

AUTUMN

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	SUGGESTED MEAN WIND SPEEDS FOR ——> (MPH) 12 SITTING / 15 STANDING / 19 WALKING / 27 UNCOMFORTABLE FOR WALKING / DANGEROUS CONDITIONS — 10 : 15 : 20 : 25 : 29+
43	A		17	
	B		--	NOT TESTED
	C	- 35	11	
44	A		13	
	B		13	
	C	+ 23	16	
48	A		12	
	B		12	
	C	+ 16	14	
50	A		15	
	B		15	
	C		--	NOT TESTED
51	A		21	
	B		22	
	C		--	NOT TESTED
52	A		21	
	B		21	
	C	- 14	18	
53	A		18	
	B		19	
	C		--	NOT TESTED
54	A		14	
	B		15	
	C		--	NOT TESTED
55	A		14	
	B	+ 28	18	
	C	+ 78	25	
56	A		17	
	B		18	
	C	+ 35	23	
57	A		16	
	B		17	
	C	+ 50	24	
58	A		16	
	B		17	
	C		--	NOT TESTED

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C131
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
AUTUMN

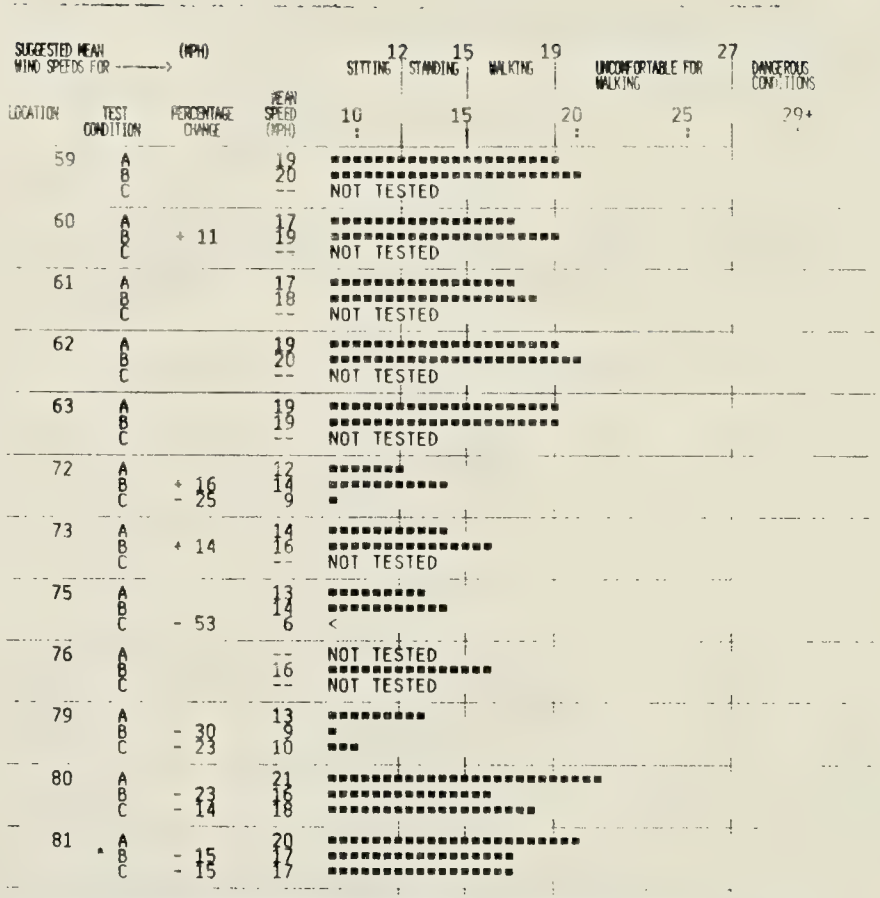
LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	SUGGESTED EFFECTIVE GUST SPEEDS FOR ——> (MPH) <------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------> — 10 : 20 : 30 : 40 : 50+
43	A		28	
	B		--	NOT TESTED
	C	- 39	17	
44	A		21	
	B		22	
	C	+ 19	25	
48	A		20	
	B		20	
	C	+ 10	22	
50	A		22	
	B		23	
	C		--	NOT TESTED
51	A		29	
	B		29	
	C		--	NOT TESTED
52	A		32	
	B		32	
	C		29	
53	A		28	
	B		28	
	C		--	NOT TESTED
54	A		24	
	B		23	
	C		--	NOT TESTED
55	A		23	
	B	+ 30	30	
	C	+ 43	33	
56	A		26	
	B		27	
	C	+ 19	31	
57	A		25	
	B		27	
	C	+ 32	33	
58	A		26	
	B		27	
	C		--	NOT TESTED

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C132
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
AUTUMN



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

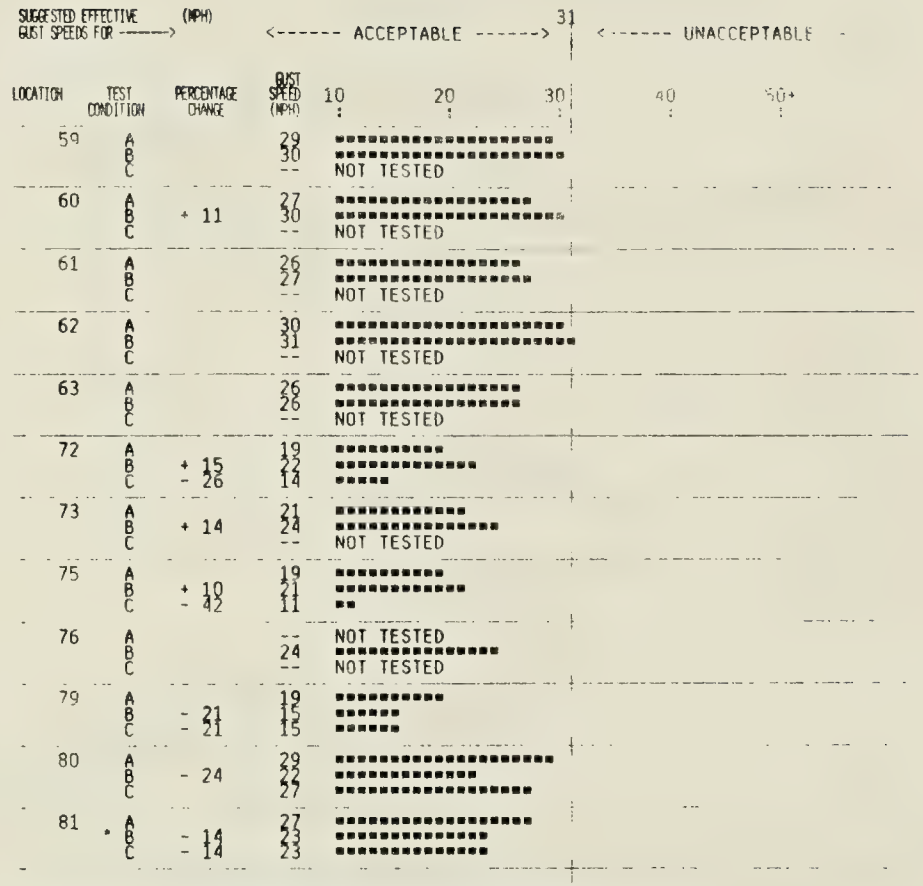
A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C133

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

AUTUMN



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

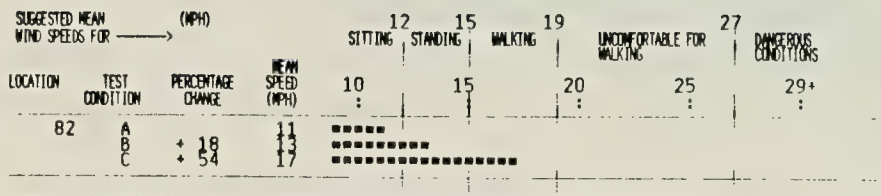
A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C134

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

AUTUMN

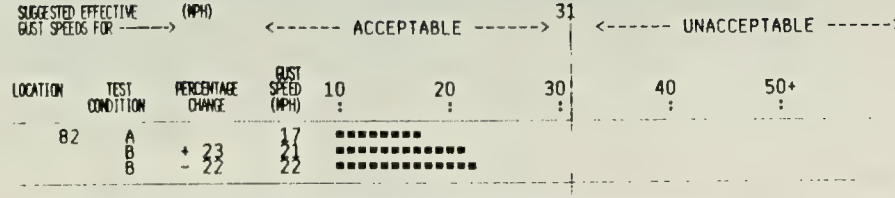


NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C135
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
AUTUMN

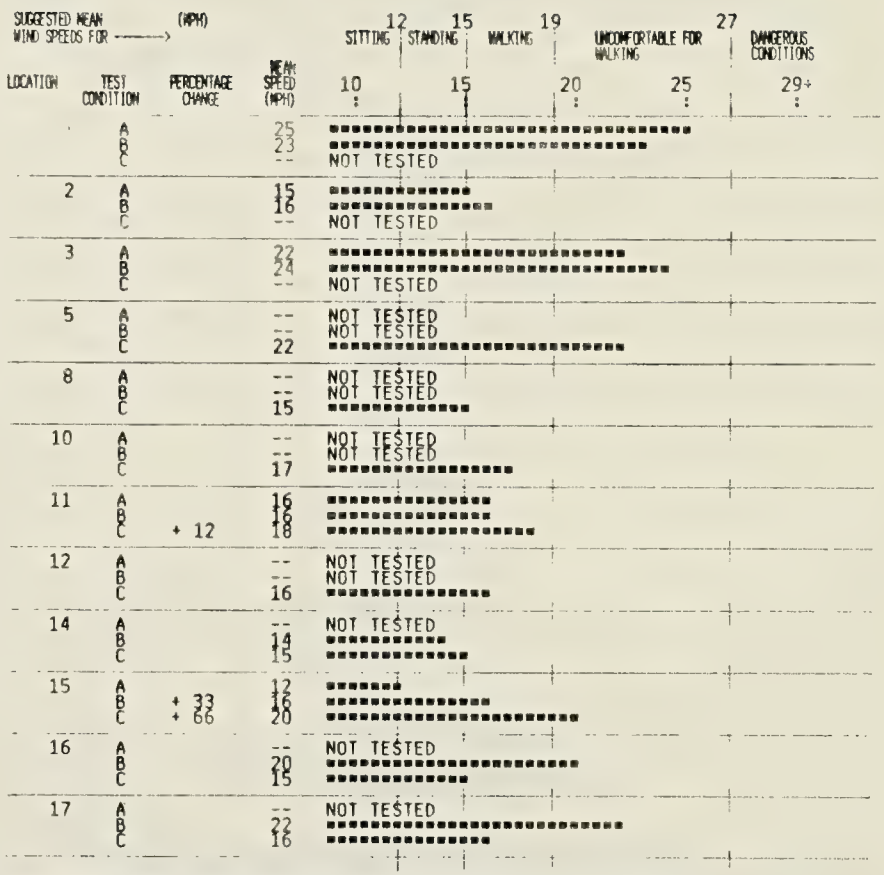


NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C136
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
AUTUMN

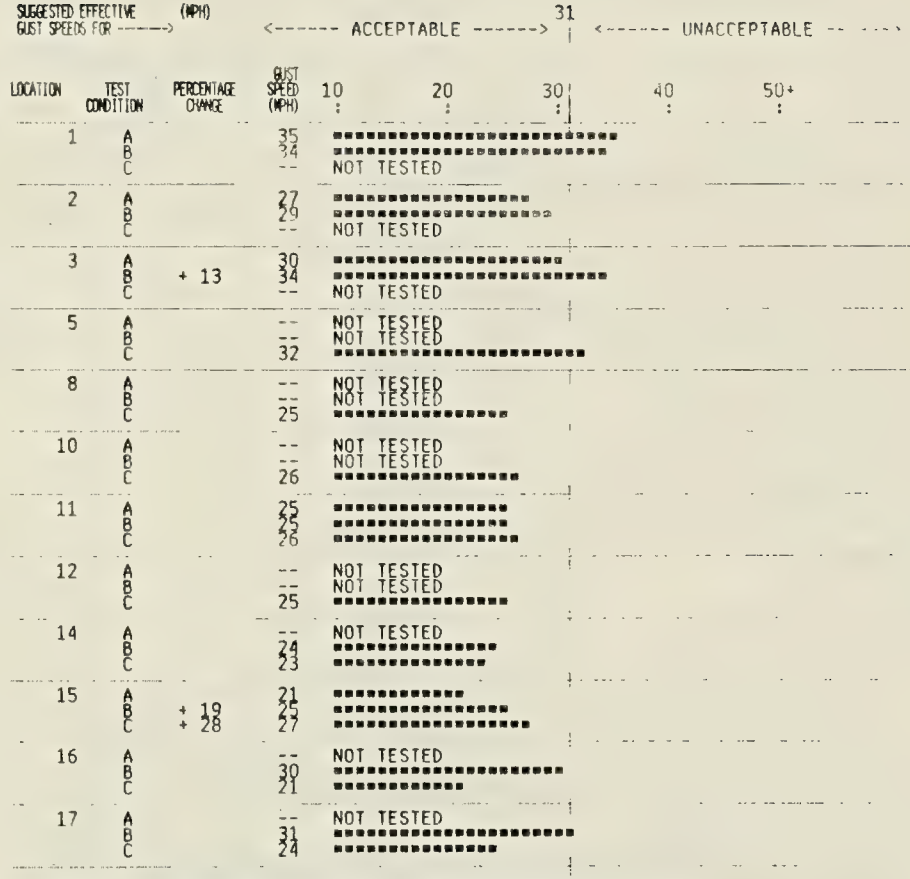


NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C137
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C138
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER

SUGGESTED MEAN WIND SPEEDS FOR ——→ (MPH)

SITTING | STANDING | WALKING | UNCOMFORTABLE FOR WALKING | DANGEROUS CONDITIONS

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	10	15	20	25	29+
18	A		--	NOT TESTED				
	B		21	■■■■■■■■■■■■■■■■■■■■■■■■				
	C		15	■■■■■■■■■■■■■■				
19	A		--	NOT TESTED				
	B		20	■■■■■■■■■■■■■■■■■■■■■■				
	C		15	■■■■■■■■■■■■■■				
20	A		--	NOT TESTED				
	B		17	■■■■■■■■■■■■■■■■■				
	C		13	■■■■■■■■■■				
21	A		--	NOT TESTED				
	B		19	■■■■■■■■■■■■■■■■■■■■				
	C		19	■■■■■■■■■■■■■■■■■■■■				
22	A		10	■■■■				
	B	+ 30	13	■■■■■■■■■■■■				
	C		--	NOT TESTED				
23	A		--	NOT TESTED				
	B		21	■■■■■■■■■■■■■■■■■■■■■■■■				
	C		18	■■■■■■■■■■■■■■■■■■■■				
24	A		--	NOT TESTED				
	B		19	■■■■■■■■■■■■■■■■■■■■				
	C		14	■■■■■■■■■■■■■■				
25	A		--	NOT TESTED				
	B		17	■■■■■■■■■■■■■■■■■				
	C		13	■■■■■■■■■■■■				
26	A		--	NOT TESTED				
	B		16	■■■■■■■■■■■■■■■■				
	C		13	■■■■■■■■■■■■				
27	A		--	NOT TESTED				
	B		22	■■■■■■■■■■■■■■■■■■■■■■■■				
	C		19	■■■■■■■■■■■■■■■■■■■■				
28	A		16	■■■■■■■■■■■■■■■■				
	B	+ 37	22	■■■■■■■■■■■■■■■■■■■■■■■■				
	C	+ 37	22	■■■■■■■■■■■■■■■■■■■■■■■■				
29	A		13	■■■■■■■■■■■■■				
	B	+ 23	16	■■■■■■■■■■■■■■■■				
	C	+ 23	16	■■■■■■■■■■■■■■■■				

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C139
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER

SUGGESTED EFFECTIVE GUST SPEEDS FOR ——→ (MPH)

<------ ACCEPTABLE ------> | <------ UNACCEPTABLE ------>

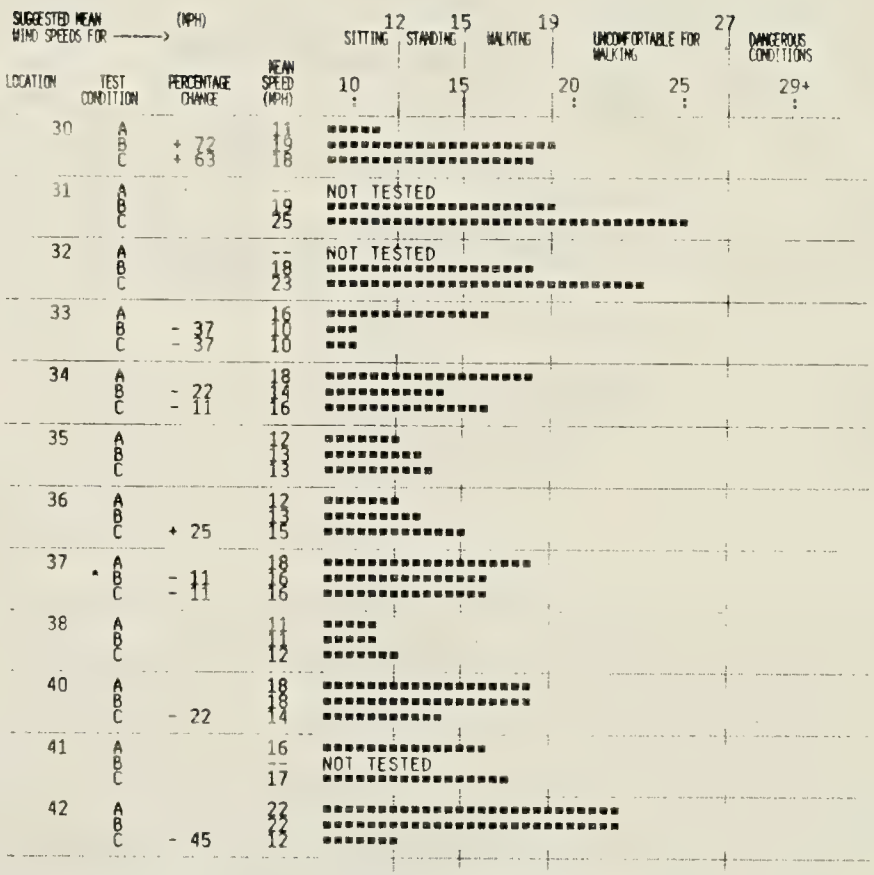
LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	10	20	30	40	50+
18	A		--	NOT TESTED				
	B		29	■■■■■■■■■■■■■■■■■■■■				
	C		22	■■■■■■■■■■■■■■■				
19	A		--	NOT TESTED				
	B		30	■■■■■■■■■■■■■■■■■■■■				
	C		23	■■■■■■■■■■■■■■■				
20	A		--	NOT TESTED				
	B		24	■■■■■■■■■■■■■■■■				
	C		21	■■■■■■■■■■■■■■				
21	A		--	NOT TESTED				
	B		30	■■■■■■■■■■■■■■■■■■■■				
	C		27	■■■■■■■■■■■■■■■■■■				
22	A		19	■■■■■■■■■■■■				
	B	+ 26	24	■■■■■■■■■■■■■■■■				
	C		--	NOT TESTED				
23	A		--	NOT TESTED				
	B		33	■■■■■■■■■■■■■■■■■■■■■■				
	C		28	■■■■■■■■■■■■■■■■■■■				
24	A		--	NOT TESTED				
	B		29	■■■■■■■■■■■■■■■■■■■■				
	C		22	■■■■■■■■■■■■■■■				
25	A		--	NOT TESTED				
	B		25	■■■■■■■■■■■■■■■■■				
	C		20	■■■■■■■■■■■■■				
26	A		--	NOT TESTED				
	B		26	■■■■■■■■■■■■■■■■■				
	C		21	■■■■■■■■■■■■■■				
27	A		--	NOT TESTED				
	B		36	■■■■■■■■■■■■■■■■■■■■■■■■				
	C		28	■■■■■■■■■■■■■■■■■■■				
28	A		24	■■■■■■■■■■■■■■■■				
	B	+ 20	29	■■■■■■■■■■■■■■■■■■■■				
	C	+ 20	29	■■■■■■■■■■■■■■■■■■■■				
29	A		21	■■■■■■■■■■■■■■				
	B	+ 19	25	■■■■■■■■■■■■■■■■■				
	C		23	■■■■■■■■■■■■■■■				

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C140
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

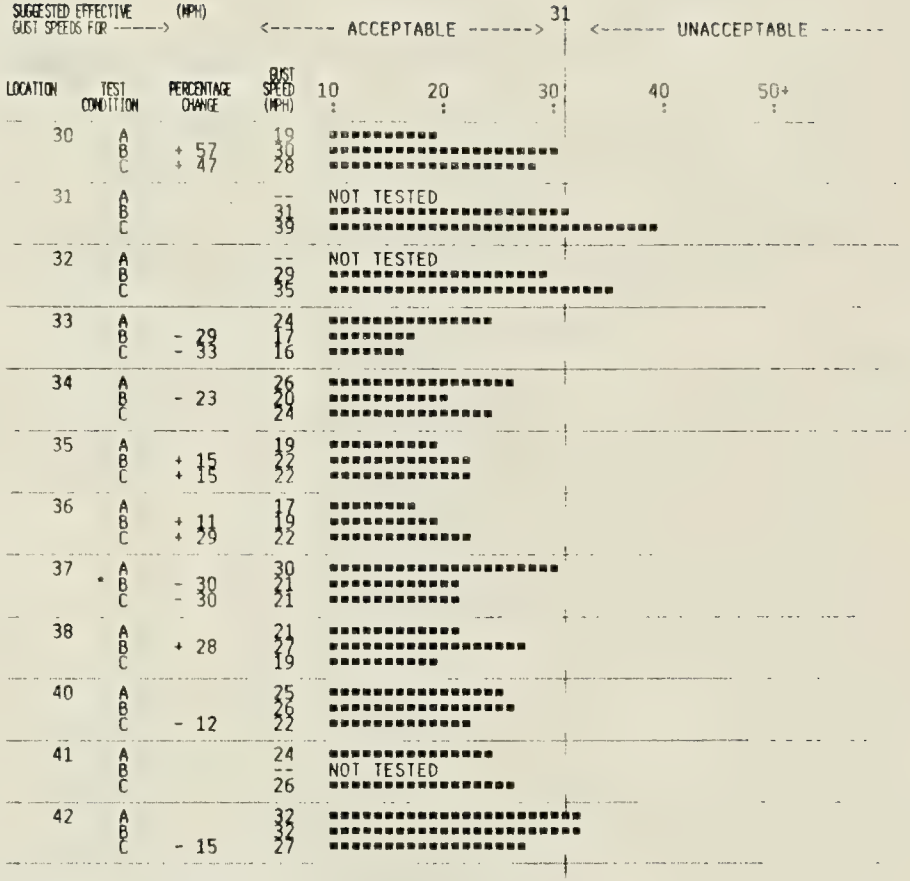
A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C141

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

WINTER



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C142

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

WINTER

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	SUGGESTED MEAN WIND SPEEDS FOR ——> (MPH) 10 12 15 19 27 — SITTING | STANDING | WALKING | UNCOMFORTABLE FOR WALKING | DANGEROUS CONDITIONS — 10 15 20 25 29+
43	A		19	
	B		--	NOT TESTED
	C	- 36	12	
44	A		13	
	B		13	
	C	+ 30	17	
48	A		12	
	B		13	
	C	+ 25	15	
50	A		15	
	B		16	
	C		--	NOT TESTED
51	A		22	
	B		22	
	C		--	NOT TESTED
52	A		22	
	B		23	
	C	- 18	18	
53	A		19	
	B		20	
	C		--	NOT TESTED
54	A		15	
	B		16	
	C		--	NOT TESTED
55	A		15	
	B	+ 26	19	
	C	+ 73	26	
56	A		18	
	B		19	
	C	+ 33	24	
57	A		17	
	B		18	
	C	+ 41	24	
58	A		17	
	B	+ 11	19	
	C		--	NOT TESTED

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C143
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER

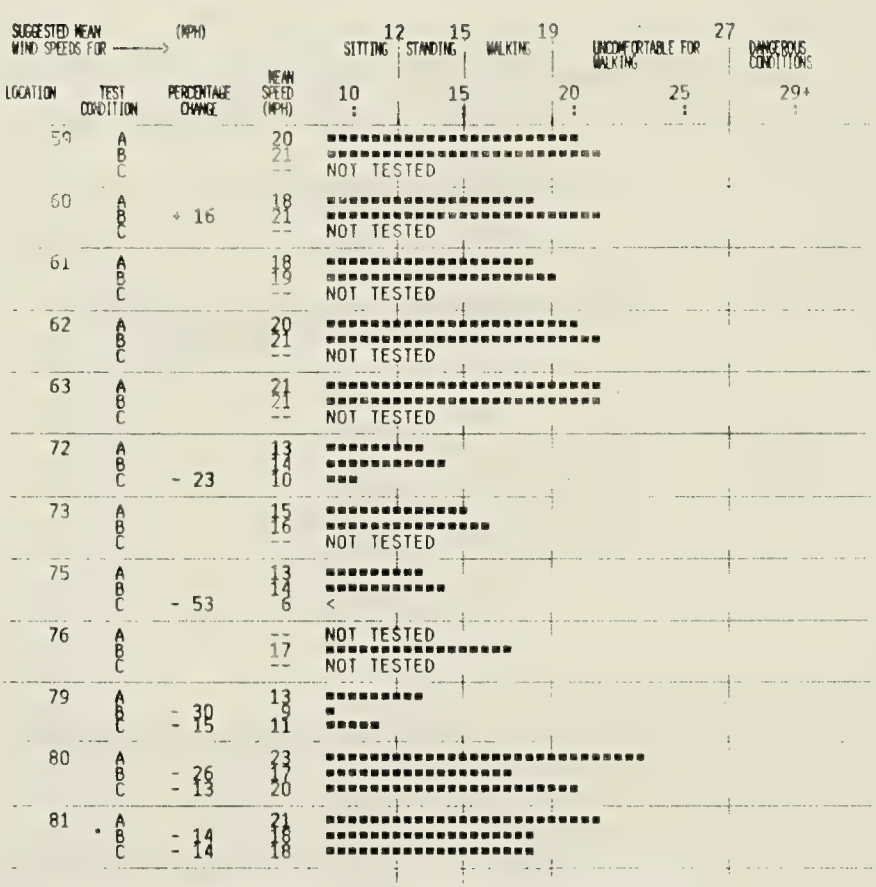
LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	SUGGESTED EFFECTIVE GUST SPEEDS FOR ——> (MPH) <------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------> — 10 20 30 40 50+
43	A		30	
	B		--	NOT TESTED
	C	- 36	19	
44	A		22	
	B		23	
	C	+ 18	26	
48	A		20	
	B		21	
	C	+ 10	22	
50	A		23	
	B		24	
	C		--	NOT TESTED
51	A		29	
	B		30	
	C		--	NOT TESTED
52	A		33	
	B		33	
	C		30	
53	A		29	
	B		29	
	C		--	NOT TESTED
54	A		25	
	B		25	
	C		--	NOT TESTED
55	A		25	
	B	+ 24	31	
	C	+ 40	35	
56	A		28	
	B		29	
	C	+ 14	32	
57	A		27	
	B		29	
	C	+ 25	34	
58	A		28	
	B		29	
	C		--	NOT TESTED

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C144
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

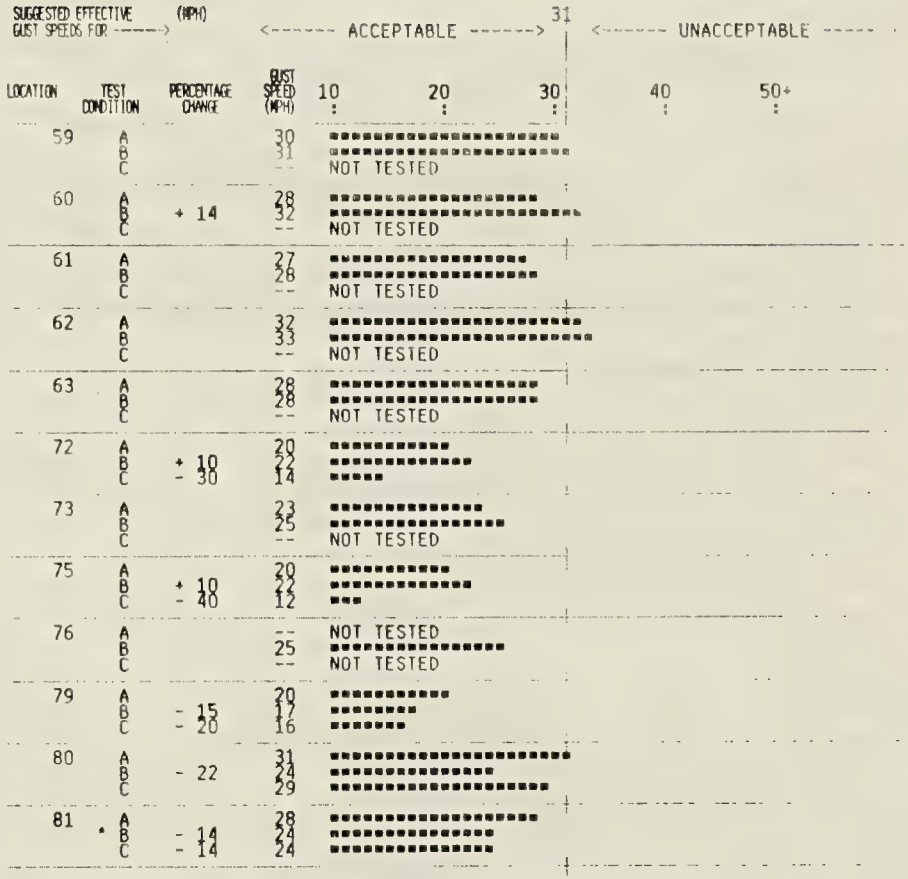
A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C145

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

WINTER



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

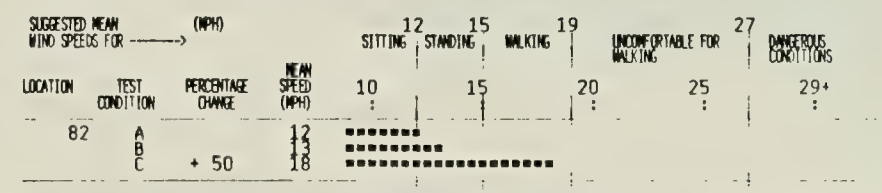
A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C146

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

WINTER

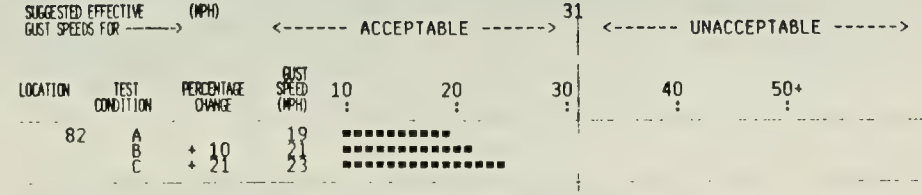


NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C147
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER

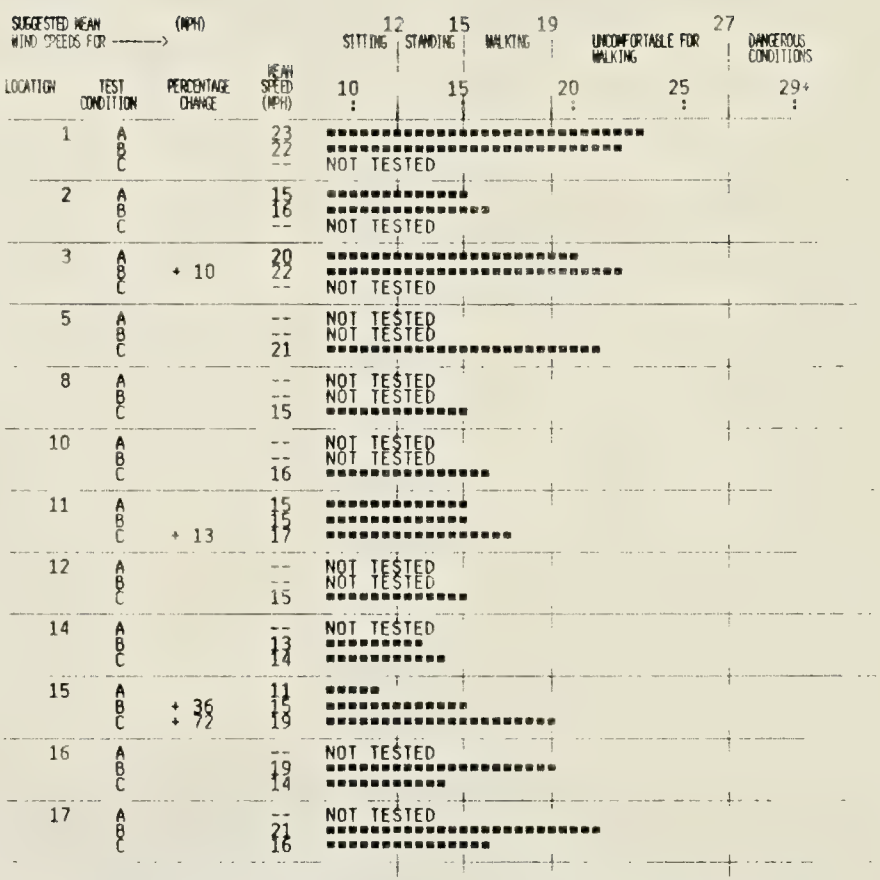


NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C148
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
WINTER



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

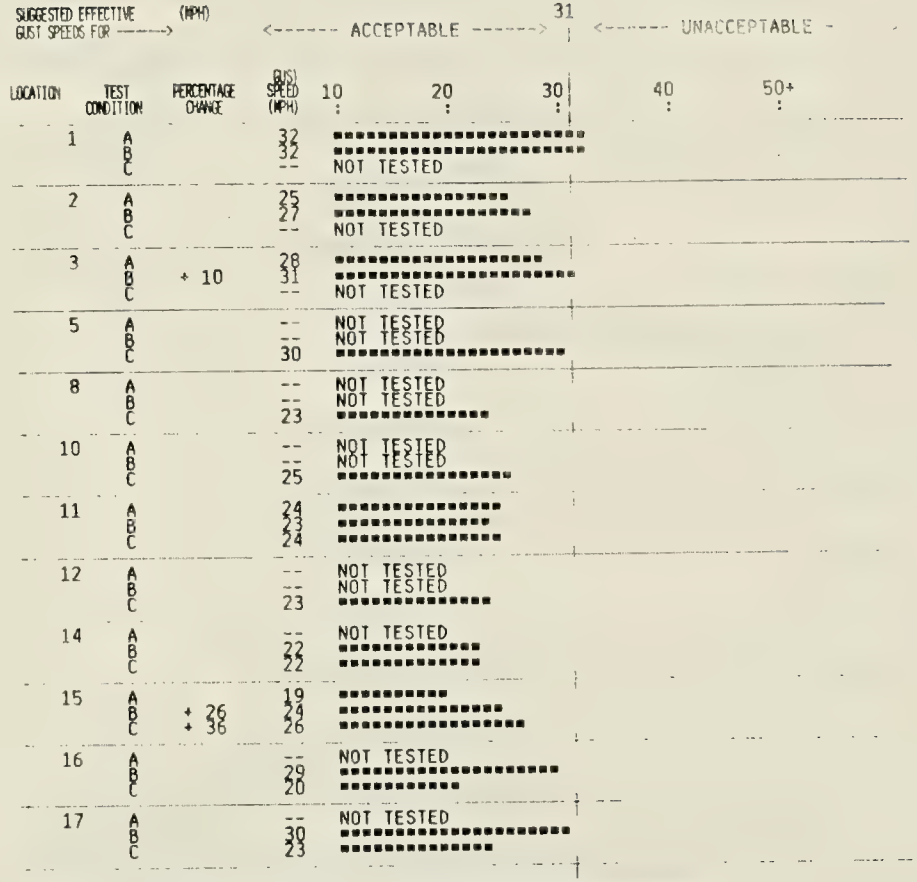
TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

TABLE WIND-C149

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

ANNUAL



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

TABLE WIND-C150

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

ANNUAL

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	SUGGESTED MEAN WIND SPEEDS FOR ——> (MPH) 12 SITTING 15 STANDING 19 WALKING 27 UNCOMFORTABLE FOR WALKING DANGEROUS CONDITIONS — 10 15 20 25 29+
18	A		--	NOT TESTED
	B		20	
	C		14	
19	A		--	NOT TESTED
	B		20	
	C		14	
20	A		--	NOT TESTED
	B		16	
	C		12	
21	A		--	NOT TESTED
	B		19	
	C		18	
22	A		10	
	B	+ 30	13	
	C		--	NOT TESTED
23	A		--	NOT TESTED
	B		20	
	C		18	
24	A		--	NOT TESTED
	B		18	
	C		13	
25	A		--	NOT TESTED
	B		15	
	C		12	
26	A		--	NOT TESTED
	B		15	
	C		13	
27	A		--	NOT TESTED
	B		21	
	C		18	
28	A		15	
	B	+ 40	21	
	C	+ 40	21	
29	A		12	
	B	+ 25	15	
	C	+ 25	15	

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

TABLE WIND-C151
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
ANNUAL

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	SUGGESTED EFFECTIVE GUST SPEEDS FOR ——> (MPH) <------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------> — 10 20 30 40 50+
18	A		--	NOT TESTED
	B		28	
	C		21	
19	A		--	NOT TESTED
	B		29	
	C		22	
20	A		--	NOT TESTED
	B		23	
	C		19	
21	A		--	NOT TESTED
	B		28	
	C		26	
22	A		18	
	B	+ 22	22	
	C		--	NOT TESTED
23	A		--	NOT TESTED
	B		31	
	C		27	
24	A		--	NOT TESTED
	B		27	
	C		21	
25	A		--	NOT TESTED
	B		23	
	C		19	
26	A		--	NOT TESTED
	B		24	
	C		20	
27	A		--	NOT TESTED
	B		33	
	C		27	
28	A		22	
	B	+ 22	27	
	C	+ 22	27	
29	A		20	
	B	+ 15	23	
	C	+ 10	22	

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

TABLE WIND-C152
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
ANNUAL

SUGGESTED MEAN WIND SPEEDS FOR ——— (MPH)				12 SITTING	15 STANDING	19 WALKING	27 UNCOMFORTABLE FOR WALKING	DANGEROUS CONDITIONS
LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	10	15	20	25	29+
30	A		11	▪▪▪▪▪				
	B	+ 63	18	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
	C	+ 54	17	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
31	A		--	NOT TESTED				
	B		17	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
	C		23	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
32	A		--	NOT TESTED				
	B		16	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
	C		21	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
33	A		16	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
	B	- 43	9	▪				
	C	- 43	9	▪				
34	A		18	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
	B	- 27	13	▪▪▪▪▪▪▪▪▪▪▪▪▪				
	C	- 22	14	▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
35	A		11	▪▪▪▪▪				
	B	+ 18	13	▪▪▪▪▪▪▪▪▪▪▪▪▪				
	C		12	▪▪▪▪▪▪▪▪▪▪▪▪				
36	A		11	▪▪▪▪▪				
	B		12	▪▪▪▪▪▪▪▪▪▪▪▪				
	C	+ 27	14	▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
37	A		17	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
*	B	- 11	15	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
	C	- 11	15	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
38	A		10	▪▪▪				
	B		10	▪▪▪				
	C	+ 10	11	▪▪▪▪▪				
40	A		16	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
	B		17	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
	C	- 18	13	▪▪▪▪▪▪▪▪▪▪▪▪▪				
41	A		15	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
	B		--	NOT TESTED				
	C	+ 13	17	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
42	A		20	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
	B		21	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪				
	C	- 40	12	▪▪▪▪▪▪▪▪				

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on test Condition C

TABLE WIND-C153

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

ANNUAL

SUGGESTED EFFECTIVE GUST SPEEDS FOR ——— (MPH)				<------ ACCEPTABLE ------> 31	<------ UNACCEPTABLE ------>
LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	10 20 30	40 50+
30	A		18	▪▪▪▪▪▪▪▪	
	B	+ 50	27	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
	C	+ 50	27	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
31	A		--	NOT TESTED	
	B		28	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
	C		35	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
32	A		--	NOT TESTED	
	B		25	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
	C		32	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
33	A		23	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
	B	- 30	16	▪▪▪▪▪▪▪	
	C	- 34	15	▪▪▪▪▪▪	
34	A		25	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
	B	- 24	19	▪▪▪▪▪▪▪▪▪	
	C	- 12	22	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
35	A		17	▪▪▪▪▪▪▪▪	
	B	+ 17	20	▪▪▪▪▪▪▪▪▪▪▪	
	C	+ 23	21	▪▪▪▪▪▪▪▪▪▪▪▪	
36	A		16	▪▪▪▪▪▪▪	
	B	+ 12	18	▪▪▪▪▪▪▪▪▪	
	C	+ 25	20	▪▪▪▪▪▪▪▪▪▪▪	
37	A		28	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
*	B	- 25	21	▪▪▪▪▪▪▪▪▪▪▪▪	
	C	- 25	21	▪▪▪▪▪▪▪▪▪▪▪▪	
38	A		19	▪▪▪▪▪▪▪▪▪▪	
	B	+ 42	27	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
	C	- 10	17	▪▪▪▪▪▪▪▪	
40	A		24	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
	B		25	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
	C	- 16	20	▪▪▪▪▪▪▪▪▪▪▪▪	
41	A		23	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
	B		--	NOT TESTED	
	C		25	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
42	A		29	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
	B		29	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	
	C	- 13	25	▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪	

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C154

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

ANNUAL

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)	SUGGESTED MEAN WIND SPEEDS FOR ——→ (MPH) 10 12 15 19 27 SITTING | STANDING | WALKING | UNCOMFORTABLE FOR WALKING | DANGEROUS CONDITIONS 10 15 20 25 29+
43	A		17	
	B		--	NOT TESTED
	C	- 29	12	
44	A		13	
	B		12	
	C	+ 23	16	
48	A		12	
	B		12	
	C	+ 16	14	
50	A		14	
	B		15	
	C		--	NOT TESTED
51	A		21	
	B		22	
	C		--	NOT TESTED
52	A		21	
	B		21	
	C	- 14	18	
53	A		18	
	B		18	
	C		--	NOT TESTED
54	A		14	
	B		15	
	C		--	NOT TESTED
55	A		14	
	B	+ 28	18	
	C	+ 71	24	
56	A		17	
	B		16	
	C	+ 29	22	
57	A		16	
	B		17	
	C	+ 43	23	
58	A		16	
	B	+ 12	18	
	C		--	NOT TESTED

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C155
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
ANNUAL

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)	SUGGESTED EFFECTIVE GUST SPEEDS FOR ——→ (MPH) <------ ACCEPTABLE ------> 31 <------ UNACCEPTABLE ------> 10 20 30 40 50+
43	A		28	
	B		--	NOT TESTED
	C	- 39	17	
44	A		21	
	B		22	
	C	+ 19	25	
48	A		19	
	B		20	
	C	+ 10	21	
50	A		22	
	B		23	
	C		--	NOT TESTED
51	A		29	
	B		29	
	C		--	NOT TESTED
52	A		32	
	B		32	
	C		29	
53	A		28	
	B		27	
	C		--	NOT TESTED
54	A		24	
	B		23	
	C		--	NOT TESTED
55	A		23	
	B	+ 30	30	
	C	+ 43	33	
56	A		26	
	B		27	
	C	+ 19	31	
57	A		25	
	B		27	
	C	+ 28	32	
58	A		26	
	B		27	
	C		--	NOT TESTED

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C156
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
ANNUAL

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	MEAN SPEED (MPH)
59	A		19
	B		20
	C		-- NOT TESTED
60	A		17
	B	+ 11	19
	C		-- NOT TESTED
61	A		17
	B		18
	C		-- NOT TESTED
62	A		19
	B		20
	C		-- NOT TESTED
63	A		19
	B		19
	C		-- NOT TESTED
72	A		12
	B	+ 16	14
	C	- 25	9
73	A		14
	B		15
	C		-- NOT TESTED
75	A		13
	B		14
	C	- 61	5
76	A		-- NOT TESTED
	B		17
	C		-- NOT TESTED
79	A		13
	B	- 30	9
	C	- 23	10
80	A		21
	B	- 23	16
	C	- 14	18
81	* A		20
	B	- 10	18
	C	- 10	18

SUGGESTED MEAN WIND SPEEDS FOR ——> (MPH)

SITTING | 12 | STANDING | 15 | WALKING | 19 | UNCOMFORTABLE FOR WALKING | 27 | DANGEROUS CONDITIONS

10 : 15 : 20 : 25 : 29+

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on test Condition C

TABLE WIND-C157

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

ANNUAL

LOCATION	TEST CONDITION	PERCENTAGE CHANGE	GUST SPEED (MPH)
59	A		29
	B		30
	C		-- NOT TESTED
60	A		27
	B	+ 11	30
	C		-- NOT TESTED
61	A		26
	B		27
	C		-- NOT TESTED
62	A		30
	B		31
	C		-- NOT TESTED
63	A		26
	B		26
	C		-- NOT TESTED
72	A		19
	B	+ 15	22
	C	- 26	14
73	A		22
	B		24
	C		-- NOT TESTED
75	A		19
	B	+ 10	21
	C	- 42	11
76	A		-- NOT TESTED
	B		24
	C		-- NOT TESTED
79	A		19
	B	- 21	15
	C	- 21	15
80	A		29
	B	- 24	22
	C		27
81	* A		27
	B	- 14	23
	C	- 14	23

SUGGESTED EFFECTIVE GUST SPEEDS FOR ——> (MPH)

<------ ACCEPTABLE ------> | 31 | <------ UNACCEPTABLE ------>

10 : 20 : 30 : 40 : 50+

NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

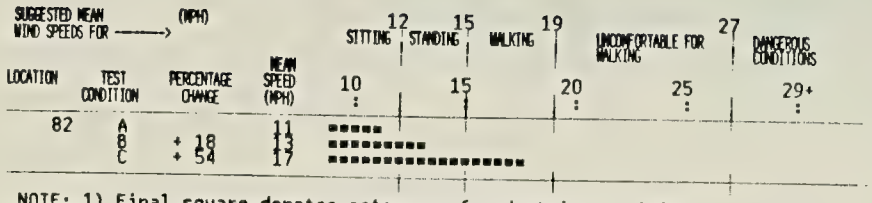
A 1993 NEW BOSTON GARDEN WITH MITIGATION
B 1995 INTERIM-BUILD WITH MITIGATION
C FULL-BUILD WITH MITIGATION

* Estimated value based on Test Condition C

TABLE WIND-C158

ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT

ANNUAL

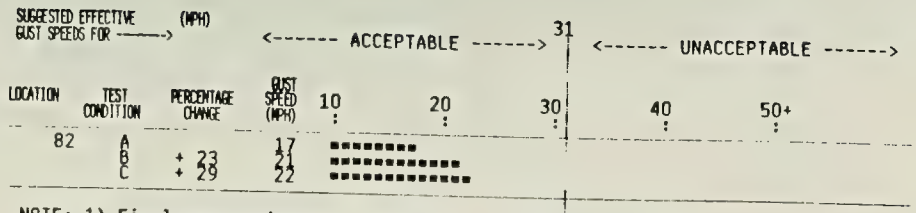


NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C159
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
ANNUAL



NOTE: 1) Final square denotes category of pedestrian activity for which the predicted winds are suitable.
2) % Change greater than 10% based on comparison with Test Condition A.
3) Wind speeds are for a 1% probability.

TEST CONDITION

A	1993 NEW BOSTON GARDEN WITH MITIGATION
B	1995 INTERIM-BUILD WITH MITIGATION
C	FULL-BUILD WITH MITIGATION

TABLE WIND-C160
ANTICIPATED LEVELS OF PEDESTRIAN WIND COMFORT
ANNUAL

D. MEAN WIND SPEED TABLE

Table Wind - D1 **SUMMARY OF MEAN WIND SPEEDS**

Causeway Street

Location	Configuration	Spring	Summer	Fall	Winter	Annual
1	1990	22	20	23	24	22
	1993	25	23	26	27	25
	1993 **	23	20	23	25	23
	1995	23	21	24	25	23
	1995 **	22	19	22	23	22
	2000	26	23	26	27	25
	2000 **	NT	NT	NT	NT	NT
2	1990	14	11	14	15	14
	1993	16	15	16	17	16
	1993 **	15	12	15	15	15
	1995	16	14	16	16	15
	1995 **	16	13	16	16	16
	2000	16	14	16	17	16
	2000 **	NT	NT	NT	NT	NT
3	1990	21	19	22	23	21
	1993	20	17	20	21	20
	1993 **	20	18	20	22	20
	1995	21	18	21	23	21
	1995 **	22	20	23	24	22
	2000	24	20	24	26	24
	2000 **	NT	NT	NT	NT	NT
5	1990	17	15	17	18	17
	1993	15	13	15	16	15
	1993 **	NT	NT	NT	NT	NT
	1995	19	16	19	20	19
	1995 **	NT	NT	NT	NT	NT
	2000	21	17	21	23	21
	2000 **	21	17	21	22	21
6	1990	9	7	9	9	9
	1993	7	6	7	7	7
	1993 **	NT	NT	NT	NT	NT
	1995	9	7	9	10	9
	1995 **	NT	NT	NT	NT	NT
	2000	10	8	10	10	10
	2000 **	NT	NT	NT	NT	NT
7	1990	10	9	11	11	10
	1993	9	8	9	11	9
	1993 **	NT	NT	NT	NT	NT
	1995	11	9	11	11	11
	1995 **	NT	NT	NT	NT	NT
	2000	18	14	18	19	18
	2000 **	NT	NT	NT	NT	NT
8	1990	10	9	10	10	10
	1993	7	5	7	7	7
	1993 **	NT	NT	NT	NT	NT
	1995	12	9	11	12	11
	1995 **	NT	NT	NT	NT	NT
	2000	14	12	14	14	14
	2000 **	15	12	15	15	15

* Value based on previous tests
** With mitigation

Table Wind - D2 **SUMMARY OF EFFECTIVE WIND SPEEDS**

Causeway Street

Location	Configuration	Spring	Summer	Fall	Winter	Annual
1	1990	31	27	32	34	31
	1993	35	31	36	37	35
	1993 **	32	28	33	35	32
	1995	33	29	34	35	33
	1995 **	32	27	32	34	32
	2000	34	30	35	37	34
	2000 **	NT	NT	NT	NT	NT
2	1990	25	20	25	27	25
	1993	25	22	25	26	25
	1993 **	26	21	25	27	25
	1995	26	22	26	27	26
	1995 **	27	22	27	29	27
	2000	27	23	27	28	27
	2000 **	NT	NT	NT	NT	NT
3	1990	29	25	30	32	29
	1993	28	24	29	30	28
	1993 **	28	24	29	30	25
	1995	31	25	31	33	30
	1995 **	32	27	32	34	27
	2000	33	28	33	35	33
	2000 **	NT	NT	NT	NT	NT
5	1990	25	22	26	27	25
	1993	23	19	23	25	23
	1993 **	NT	NT	NT	NT	NT
	1995	29	23	29	31	29
	1995 **	NT	NT	NT	NT	NT
	2000	30	25	30	33	30
	2000 **	30	24	30	32	30
6	1990	15	12	14	15	14
	1993	12	10	12	13	12
	1993 **	NT	NT	NT	NT	NT
	1995	14	11	14	15	14
	1995 **	NT	NT	NT	NT	NT
	2000	16	13	16	17	16
	2000 **	NT	NT	NT	NT	NT
7	1990	17	14	17	18	17
	1993	15	12	15	17	15
	1993 **	NT	NT	NT	NT	NT
	1995	19	15	18	19	18
	1995 **	NT	NT	NT	NT	NT
	2000	26	21	25	27	25
	2000 **	NT	NT	NT	NT	NT
8	1990	17	14	17	18	17
	1993	14	12	14	15	14
	1993 **	NT	NT	NT	NT	NT
	1995	22	17	21	22	21
	1995 **	NT	NT	NT	NT	NT
	2000	24	18	23	24	23
	2000 **	24	19	23	25	23

* Value based on previous tests
** With mitigation

Table Wind - D3 **SUMMARY OF MEAN WIND SPEEDS**

Causeway Street

Location	Configuration	Spring	Summer	Fall	Winter	Annual
10	1990	10	8	10	10	10
	1993	10	8	10	10	10
	1993 **	NT	NT	NT	NT	NT
	1995	14	10	13	14	13
	1995 **	NT	NT	NT	NT	NT
	2000	18	13	17	18	17
	2000 **	17	12	16	17	16
11	1990	10	8	10	10	10
	1993	16	12	15	16	15
	1993 **	NT	NT	NT	NT	NT
	1995	14	11	14	15	14
	1995 **	NT	NT	NT	NT	NT
	2000	17	14	17	17	17
	2000 **	18	15	18	18	17
12	1990	9	7	10	10	10
	1993	13	10	13	14	13
	1993 **	NT	NT	NT	NT	NT
	1995	15	12	14	16	15
	1995 **	NT	NT	NT	NT	NT
	2000	15	12	15	16	15
	2000 **	15	12	15	16	15
14	1990	10	8	10	11	10
	1993	12	9	11	12	12
	1993 **	NT	NT	NT	NT	NT
	1995	14	11	14	15	14
	1995 **	NT	NT	NT	NT	NT
	2000	13	11	13	14	13
	2000 **	14	12	14	15	14
15	1990	15	12	14	15	14
	1993	12	9	12	13	12
	1993 **	NT	NT	NT	NT	NT
	1995	15	12	15	16	15
	1995 **	16	12	15	16	15
	2000	21	17	20	21	20
	2000 **	21	16	19	20	19
16	1990	11	9	11	11	11
	1993	20 *	15 *	19 *	20 *	19 *
	1993 **	NT	NT	NT	NT	NT
	1995	20	15	19	20	19
	1995 **	21	16	19	20	19
	2000	15	12	14	15	14
	2000 **	15	12	14	15	14
17	1990	11	9	11	11	11
	1993	15	11	15	16	15
	1993 **	NT	NT	NT	NT	NT
	1995	22	17	21	22	21
	1995 **	23	17	21	22	21
	2000	19	14	18	18	18
	2000 **	17	13	16	16	16

* Value based on previous tests
** With mitigation

SUMMARY OF EFFECTIVE WIND SPEEDS

Causeway Street

Location	Configuration	Spring	Summer	Fall	Winter	Annual
10	1990	16	13	16	17	16
	1993	17	14	17	18	17
	1993 **	NT	NT	NT	NT	NT
	1995	23	18	23	24	23
	1995 **	NT	NT	NT	NT	NT
	2000	27	21	26	28	26
	2000 **	26	19	25	26	25
11	1990	17	14	16	17	16
	1993	25	19	24	25	24
	1993 **	NT	NT	NT	NT	NT
	1995	23	18	23	24	23
	1995 **	NT	NT	NT	NT	NT
	2000	25	20	24	25	24
	2000 **	25	21	24	26	24
12	1990	19	14	18	20	19
	1993	20	16	19	21	20
	1993 **	NT	NT	NT	NT	NT
	1995	27	20	26	29	26
	1995 **	NT	NT	NT	NT	NT
	2000	26	20	26	27	26
	2000 **	24	18	23	25	23
14	1990	17	14	17	19	17
	1993	20	15	19	21	19
	1993 **	NT	NT	NT	NT	NT
	1995	24	18	23	25	24
	1995 **	NT	NT	NT	NT	NT
	2000	22	17	22	23	22
	2000 **	22	18	22	23	22
15	1990	30	21	26	24	26
	1993	19	16	19	21	19
	1993 **	NT	NT	NT	NT	NT
	1995	25	19	24	26	24
	1995 **	25	22	24	25	24
	2000	28	22	28	29	28
	2000 **	27	21	26	27	26
16	1990	16	12	15	16	15
	1993	29 *	23 *	28 *	29 *	28 *
	1993 **	NT	NT	NT	NT	NT
	1995	29	23	28	29	28
	1995 **	30	23	29	30	29
	2000	21	17	20	21	21
	2000 **	21	17	20	21	20

* Value based on previous tests
** With mitigation

Table Wind - D5 **SUMMARY OF MEAN WIND SPEEDS**

Causeway Street

Location	Configuration	Spring	Summer	Fall	Winter	Annual
18	1990	11	9	10	11	10
	1993	20 *	15 *	19 *	19 *	19 *
	1993 **	NT	NT	NT	NT	NT
	1995	20	15	19	19	19
	1995 **	21	16	20	21	20
	2000	16	13	16	16	16
	2000 **	15	12	14	15	14
19	1990	10	8	10	11	10
	1993	15	11	15	16	15
	1993 **	NT	NT	NT	NT	NT
	1995	22	17	21	22	21
	1995 **	21	16	20	20	20
	2000	17	13	16	17	16
	2000 **	15	12	14	15	14
20	1990	10	8	10	10	10
	1993	19 *	14 *	18 *	19 *	18 *
	1993 **	NT	NT	NT	NT	NT
	1995	19	14	18	19	18
	1995 **	16	13	16	17	16
	2000	14	11	13	14	13
	2000 **	12	10	12	13	12
21	1990	14	11	13	15	14
	1993	12	9	12	13	12
	1993 **	NT	NT	NT	NT	NT
	1995	20	15	19	20	19
	1995 **	20	15	18	19	19
	2000	19	14	18	18	18
	2000 **	19	15	18	19	18
23	1990	NT	NT	NT	NT	NT
	1993	NT	NT	NT	NT	NT
	1993 **	NT	NT	NT	NT	NT
	1995	21	16	20	22	20
	1995 **	21	16	20	21	20
	2000	19	14	18	18	18
	2000 **	18	14	18	18	18
24	1990	14	12	12	13	12
	1993	12	9	12	12	12
	1993 **	NT	NT	NT	NT	NT
	1995	22	17	21	23	21
	1995 **	18	14	18	19	18
	2000	16	12	15	16	15
	2000 **	14	11	13	14	13
25	1990	12	12	11	10	11
	1993	17 *	14 *	17 *	19 *	17 *
	1993 **	NT	NT	NT	NT	NT
	1995	17	14	17	19	17
	1995 **	16	12	15	17	15
	2000	14	12	14	14	14
	2000 **	13	10	12	13	12

* Value based on previous tests
** With mitigation

Table Wind - D6 **SUMMARY OF EFFECTIVE WIND SPEEDS**

Causeway Street

Location	Configuration	Spring	Summer	Fall	Winter	Annual
17	1990	18	14	17	18	17
	1993	23 *	17 *	22 *	24 *	22 *
	1993 **	NT	NT	NT	NT	NT
	1995	31	24	30	31	30
	1995 **	32	24	30	31	30
	2000	26	20	24	25	25
	2000 **	24	19	23	24	23
18	1990	16	13	15	16	15
	1993	27	21	26	27	26
	1993 **	NT	NT	NT	NT	NT
	1995	27	21	26	27	26
	1995 **	29	23	28	29	28
	2000	23	18	22	23	22
	2000 **	22	17	21	22	21
19	1990	17	13	16	17	16
	1993	24	18	23	25	23
	1993 **	NT	NT	NT	NT	NT
	1995	32	25	31	33	31
	1995 **	29	23	28	30	29
	2000	25	19	24	25	24
	2000 **	23	18	22	23	22
20	1990	15	12	15	15	15
	1993	26 *	20 *	25 *	27 *	25 *
	1993 **	NT	NT	NT	NT	NT
	1995	26	20	25	27	25
	1995 **	23	18	23	24	23
	2000	20	16	20	21	20
	2000 **	20	16	19	21	19
21	1990	22	17	22	25	22
	1993	21	16	21	22	21
	1993 **	NT	NT	NT	NT	NT
	1995	31	24	30	32	30
	1995 **	29	22	28	30	28
	2000	27	21	26	27	26
	2000 **	27	21	26	27	26
23	1990	NT	NT	NT	NT	NT
	1993	NT	NT	NT	NT	NT
	1993 **	NT	NT	NT	NT	NT
	1995	32	25	32	34	32
	1995 **	31	24	30	33	31
	2000	28	22	27	28	27
	2000 **	28	22	27	28	27

* Value based on previous tests
** With mitigation

Table Wind - D7 **SUMMARY OF MEAN WIND SPEEDS**

Causeway Street

Location	Configuration	Spring	Summer	Fall	Winter	Annual
26	1990	10	8	9	9	9
	1993	13	10	13	14	13
	1993 **	NT	NT	NT	NT	NT
	1995	21	15	19	19	19
	1995 **	16	13	15	16	15
	2000	19	15	17	18	18
	2000 **	14	12	13	13	13
27	1990	11	9	10	11	10
	1993	12	9	12	13	12
	1993 **	NT	NT	NT	NT	NT
	1995	24	19	24	26	24
	1995 **	21	16	20	22	21
	2000	23	18	23	25	23
	2000 **	18	14	18	19	18
28	1990	17	14	17	17	17
	1993	NT	NT	NT	NT	NT
	1993 **	15	12	15	16	15
	1995	22	18	21	21	21
	1995 **	21	17	20	22	21
	2000	22	18	21	22	21
	2000 **	21	17	21	22	21
29	1990	10	8	9	9	9
	1993	12	9	12	12	12
	1993 **	12	10	12	13	12
	1995	24	19	23	25	24
	1995 **	16	13	15	16	15
	2000	29	23	29	31	29
	2000 **	15	13	15	16	15
30	1990	15	11	14	15	14
	1993	10	8	10	10	10
	1993 **	NT	NT	NT	NT	NT
	1995	20	15	19	21	19
	1995 **	18	14	17	19	18
	2000	17	13	17	17	17
	2000 **	17	14	17	18	17
31	1990	16	12	15	16	15
	1993	15	11	14	15	14
	1993 **	NT	NT	NT	NT	NT
	1995	20	15	20	23	20
	1995 **	18	13	17	19	17
	2000	24	18	23	26	23
	2000 **	23	17	23	25	23
32	1990	13	10	13	14	13
	1993	10	8	10	11	10
	1993 **	NT	NT	NT	NT	NT
	1995	19	14	18	21	19
	1995 **	16	12	16	18	16
	2000	22	16	21	23	21
	2000 **	22	16	21	23	21

* Value based on previous tests
** With mitigation

Causeway Street

Location	Configuration	Spring	Summer	Fall	Winter	Annual
24	1990	20	17	19	20	19
	1993	20	16	20	21	20
	1993 **	NT	NT	NT	NT	NT
	1995	33	25	31	34	32
	1995 **	28	22	27	29	27
	2000	25	18	23	24	23
	2000 **	22	17	21	22	21
25	1990	18	16	16	17	16
	1993	26 *	21 *	25 *	28 *	26 *
	1993 **	NT	NT	NT	NT	NT
	1995	26	21	25	28	26
	1995 **	23	18	22	25	23
	2000	22	17	22	23	22
	2000 **	19	16	19	20	19
26	1990	16	12	15	15	15
	1993	20	16	20	22	20
	1993 **	NT	NT	NT	NT	NT
	1995	31	23	29	38	29
	1995 **	25	20	24	26	24
	2000	30	22	27	35	27
	2000 **	21	18	20	21	20
27	1990	17	14	17	17	17
	1993	21	16	20	22	20
	1993 **	NT	NT	NT	NT	NT
	1995	36	28	35	30	35
	1995 **	33	26	32	36	33
	2000	33	26	32	28	33
	2000 **	27	21	26	28	27
28	1990	26	21	25	25	25
	1993	NT	NT	NT	NT	NT
	1993 **	23	18	22	24	22
	1995	31	24	29	30	29
	1995 **	28	22	27	29	27
	2000	31	24	29	30	29
	2000 **	29	22	27	28	27
29	1990	17	14	16	17	16
	1993	19	15	19	20	19
	1993 **	20	16	20	21	20
	1995	33	26	32	34	32
	1995 **	24	19	23	25	23
	2000	39	30	39	41	39
	2000 **	23	18	22	23	22
30	1990	21	17	20	22	20
	1993	18	14	18	19	18
	1993 **	NT	NT	NT	NT	NT
	1995	29	23	28	31	29
	1995 **	27	22	27	30	27
	2000	27	21	26	28	26
	2000 **	27	21	27	28	27

* Value based on previous tests
** With mitigation

Table Wind - D9 **SUMMARY OF MEAN WIND SPEEDS**

Merrimac Street, Lowell Square, Lomasney Way

Location	Configuration	Spring	Summer	Fall	Winter	Annual
49	1990	11	9	11	12	11
	1993	16	15	17	17	16
	1993 **	NT	NT	NT	NT	NT
	1995	15	13	15	16	15
	1995 **	NT	NT	NT	NT	NT
	2000	17	14	17	17	17
	2000 **	NT	NT	NT	NT	NT
50	1990	13	10	13	13	13
	1993	12	10	12	12	12
	1993 **	14	13	15	15	14
	1995	14	12	14	14	14
	1995 **	15	13	15	16	15
	2000	14	11	14	14	14
	2000 **	NT	NT	NT	NT	NT
51	1990	21	18	21	21	21
	1993	20	18	21	21	20
	1993 **	22	18	21	22	21
	1995	22	20	22	23	22
	1995 **	22	18	22	22	22
	2000	19	17	19	20	19
	2000 **	NT	NT	NT	NT	NT
52	1990	22	18	22	23	22
	1993	22	19	22	22	22
	1993 **	22	17	21	22	21
	1995	21	18	21	22	21
	1995 **	21	17	21	22	21
	2000	18	15	18	19	18
	2000 **	18	15	18	18	18
53	1990	19	18	20	21	19
	1993	18	17	19	19	18
	1993 **	18	17	18	19	18
	1995	17	15	17	18	17
	1995 **	18	17	19	20	18
	2000	17	15	18	18	17
	2000 **	NT	NT	NT	NT	NT
54	1990	15	12	15	15	15
	1993	17	14	17	17	17
	1993 **	14	12	14	15	14
	1995	16	13	16	16	16
	1995 **	15	12	15	16	15
	2000	17	14	17	17	17
	2000 **	NT	NT	NT	NT	NT
55	1990	17	14	17	18	17
	1993	22	20	23	23	22
	1993 **	15	12	14	15	14
	1995	24	22	24	25	24
	1995 **	19	14	18	19	18
	2000	24	22	25	26	24
	2000 **	24	22	25	26	24

* Value based on previous tests
** With mitigation

Table Wind - D10 **SUMMARY OF EFFECTIVE WIND SPEEDS**

Causeway Street

Location	Configuration	Spring	Summer	Fall	Winter	Annual
31	1990	24	18	23	26	23
	1993	23	17	22	24	22
	1993 **	NT	NT	NT	NT	NT
	1995	33	24	31	36	32
	1995 **	28	21	27	31	28
	2000	38	28	37	41	37
	2000 **	35	27	35	39	35
32	1990	21	16	21	22	21
	1993	19	14	18	21	19
	1993 **	NT	NT	NT	NT	NT
	1995	29	21	28	32	28
	1995 **	26	19	25	29	25
	2000	33	25	32	35	33
	2000 **	33	25	32	35	32

Merrimac Street, Lowell Square, Lomasney Way

49	1990	19	16	19	20	19
	1993	24	21	24	25	24
	1993 **	NT	NT	NT	NT	NT
	1995	24	20	24	25	24
	1995 **	NT	NT	NT	NT	NT
	2000	25	21	26	26	25
	2000 **	NT	NT	NT	NT	NT
50	1990	20	16	20	21	20
	1993	21	17	21	21	21
	1993 **	22	19	22	23	22
	1995	21	17	21	22	21
	1995 **	23	20	23	24	23
	2000	21	17	21	22	21
	2000 **	NT	NT	NT	NT	NT
51	1990	28	24	29	29	28
	1993	28	25	28	29	28
	1993 **	29	24	29	29	29
	1995	30	26	30	31	30
	1995 **	30	25	29	30	29
	2000	27	24	28	28	27
	2000 **	NT	NT	NT	NT	NT
52	1990	33	28	34	34	33
	1993	32	27	32	32	32
	1993 **	32	26	32	33	32
	1995	32	26	32	32	32
	1995 **	32	26	32	33	32
	2000	29	24	29	30	29
	2000 **	29	24	29	30	29

* Value based on previous tests
** With mitigation

Table Wind - D11 **SUMMARY OF MEAN WIND SPEEDS**

Merrimac Street, Lowell Square, Lomasney Way

Location	Configuration	Spring	Summer	Fall	Winter	Annual
56	1990	17	14	17	18	17
	1993	21	19	21	22	21
	1993 **	17	14	17	18	17
	1995	21	18	21	22	20
	1995 **	18	15	18	19	18
	2000	22	19	22	23	22
	2000 **	23	19	23	24	22
57	1990	16	13	16	17	16
	1993	23	22	24	25	23
	1993 **	16	13	16	17	16
	1995	22	20	22	23	22
	1995 **	17	14	17	18	17
	2000	23	21	24	25	23
	2000 **	23	21	24	24	23
58	1990	17	14	17	18	17
	1993	20	17	19	20	19
	1993 **	16	13	16	17	16
	1995	21	18	20	21	20
	1995 **	18	14	17	19	18
	2000	19	16	19	20	18
	2000 **	NT	NT	NT	NT	NT
59	1990	18	15	18	19	18
	1993	16	13	15	16	15
	1993 **	19	15	19	20	19
	1995	17	14	16	17	16
	1995 **	20	16	20	21	20
	2000	17	14	16	17	16
	2000 **	NT	NT	NT	NT	NT
60	1990	13	10	13	13	12
	1993	20	15	19	21	20
	1993 **	17	14	17	18	17
	1995	17	13	16	18	16
	1995 **	19	16	19	21	19
	2000	16	12	15	17	15
	2000 **	NT	NT	NT	NT	NT
61	1990	17	14	17	18	17
	1993	17 *	13 *	17 *	18 *	17 *
	1993 **	NT	NT	NT	NT	NT
	1995	17	13	17	18	17
	1995 **	18	14	18	19	18
	2000	16	13	16	17	16
	2000 **	NT	NT	NT	NT	NT

* Value based on previous tests
** With mitigation

SUMMARY OF EFFECTIVE WIND SPEEDS

Merrimac Street, Lowell Square, Lomasney Way

Location	Configuration	Spring	Summer	Fall	Winter	Annual
53	1990	30	26	31	32	30
	1993	28	24	29	30	28
	1993 **	28	24	28	29	28
	1995	28	23	28	29	28
	1995 **	27	24	28	29	27
	2000	29	24	29	30	29
	2000 **	NT	NT	NT	NT	NT
54	1990	24	20	24	25	24
	1993	26	21	26	26	25
	1993 **	14	19	24	25	24
	1995	26	21	26	26	26
	1995 **	23	19	23	25	23
	2000	26	21	26	27	26
	2000 **	NT	NT	NT	NT	NT
55	1990	27	23	27	29	27
	1993	30	27	30	31	30
	1993 **	23	19	23	25	23
	1995	32	29	33	34	32
	1995 **	30	23	30	31	30
	2000	31	29	33	34	32
	2000 **	33	29	33	35	33
56	1990	27	22	27	29	27
	1993	28	25	29	30	28
	1993 **	26	21	26	28	26
	1995	29	25	29	30	29
	1995 **	28	22	27	29	27
	2000	30	26	30	32	30
	2000 **	31	26	31	32	31
57	1990	26	21	26	28	26
	1993	32	29	33	34	32
	1993 **	25	21	25	27	25
	1995	32	28	33	34	32
	1995 **	27	22	27	29	27
	2000	33	29	34	35	33
	2000 **	32	29	33	34	32
58	1990	26	22	27	28	26
	1993	28	24	28	29	28
	1993 **	26	21	26	28	26
	1995	29	25	29	30	29
	1995 **	27	22	27	29	27
	2000	28	25	29	30	28
	2000 **	NT	NT	NT	NT	NT
59	1990	28	24	29	30	29
	1993	23	20	23	23	23
	1993 **	29	24	29	30	29
	1995	26	22	25	26	25
	1995 **	30	24	30	31	30
	2000	25	21	25	26	25
	2000 **	NT	NT	NT	NT	NT

* Value based on previous tests
** With mitigation

Table Wind - D13 **SUMMARY OF MEAN WIND SPEEDS**

Merrimac Street, Lowell Square, Lomasney Way

Location	Configuration	Spring	Summer	Fall	Winter	Annual
62	1990	19	16	19	20	19
	1993	17 *	16 *	18 *	19 *	17 *
	1993 **	19	16	19	20	19
	1995	17	16	18	19	17
	1995 **	20	16	20	21	20
	2000	16	15	17	18	16
	2000 **	NT	NT	NT	NT	NT
Nashua Street						
45	1990	19	15	19	20	19
	1993	17	14	17	18	17
	1993 **	NT	NT	NT	NT	NT
	1995	17	14	17	18	17
	1995 **	NT	NT	NT	NT	NT
	2000	12	10	11	12	11
	2000 **	NT	NT	NT	NT	NT
46	1990	15	12	15	16	15
	1993	17	16	17	18	17
	1993 **	NT	NT	NT	NT	NT
	1995	15	14	16	16	15
	1995 **	NT	NT	NT	NT	NT
	2000	16	12	15	16	15
	2000 **	NT	NT	NT	NT	NT
47	1990	12	9	11	12	11
	1993	19	17	20	20	19
	1993 **	NT	NT	NT	NT	NT
	1995	17	15	18	18	17
	1995 **	NT	NT	NT	NT	NT
	2000	18	14	17	18	17
	2000 **	NT	NT	NT	NT	NT
48	1990	12	10	12	13	12
	1993	12	10	12	12	12
	1993 **	12	11	12	12	12
	1995	12	11	12	13	12
	1995 **	12	12	12	13	12
	2000	15	12	15	16	15
	2000 **	14	12	14	15	14
Lancaster, Portland, Friend, Canal Streets						
4	1990	10	9	10	11	10
	1993	10	9	10	10	10
	1993 **	NT	NT	NT	NT	NT
	1995	12	10	12	12	12
	1995 **	NT	NT	NT	NT	NT
	2000	17	13	16	17	16
	2000 **	NT	NT	NT	NT	NT

* Value based on previous tests
** With mitigation

SUMMARY OF EFFECTIVE WIND SPEEDS

Merrimac Street, Lowell Square, Lomasney Way

Location	Configuration	Spring	Summer	Fall	Winter	Annual
60	1990	23	19	23	24	22
	1993	31	24	31	33	31
	1993 **	27	22	27	28	27
	1995	28	21	27	29	27
	1995 **	30	25	30	32	30
	2000	26	20	25	27	26
	2000 **	NT	NT	NT	NT	NT
61	1990	27	22	27	28	27
	1993	28 *	22 *	27 *	30 *	27 *
	1993 **	NT	NT	NT	NT	NT
	1995	28	22	27	30	27
	1995 **	27	22	27	28	27
	2000	25	21	25	27	25
	2000 **	NT	NT	NT	NT	NT
62	1990	30	25	30	32	30
	1993	25 *	24 *	27 *	28 *	25 *
	1993 **	30	25	30	32	30
	1995	25	24	27	28	25
	1995 **	31	25	31	33	31
	2000	25	23	26	27	25
	2000 **	NT	NT	NT	NT	NT
Nashua Street						
45	1990	13	25	31	33	31
	1993	28	23	28	29	28
	1993 **	NT	NT	NT	NT	NT
	1995	30	24	30	31	30
	1995 **	NT	NT	NT	NT	NT
	2000	22	17	21	22	21
	2000 **	NT	NT	NT	NT	NT
46	1990	25	20	25	27	25
	1993	26	23	26	27	26
	1993 **	NT	NT	NT	NT	NT
	1995	24	22	25	25	24
	1995 **	NT	NT	NT	NT	NT
	2000	24	19	23	25	23
	2000 **	NT	NT	NT	NT	NT
47	1990	19	16	19	20	19
	1993	27	23	27	28	27
	1993 **	NT	NT	NT	NT	NT
	1995	25	22	26	26	25
	1995 **	NT	NT	NT	NT	NT
	2000	25	19	24	25	24
	2000 **	NT	NT	NT	NT	NT

* Value based on previous tests
** With mitigation

Table Wind - D15 **SUMMARY OF MEAN WIND SPEEDS**

Lancaster, Portland, Friend, Canal Streets

Location	Configuration	Spring	Summer	Fall	Winter	Annual
9	1990	8	7	8	9	8
	1993	9	7	9	9	9
	1993 **	NT	NT	NT	NT	NT
	1995	10	8	10	10	10
	1995 **	NT	NT	NT	NT	NT
	2000	10	8	10	11	10
	2000 **	NT	NT	NT	NT	NT
13	1990	11	9	11	12	11
	1993	12	10	12	13	12
	1993 **	NT	NT	NT	NT	NT
	1995	13	10	13	14	13
	1995 **	NT	NT	NT	NT	NT
	2000	16	12	15	17	15
	2000 **	NT	NT	NT	NT	NT
22	1990	8	7	8	9	8
	1993	12	9	11	12	11
	1993 **	10	8	10	10	10
	1995	14	11	13	14	14
	1995 **	NT	NT	NT	NT	NT
	2000	12	9	11	11	11
	2000 **	NT	NT	NT	NT	NT
Boat Landing						
63	1990	18	13	17	19	18
	1993	19	14	18	20	18
	1993 **	20	15	19	21	19
	1995	18	14	18	19	18
	1995 **	20	15	19	21	19
	2000	13	11	13	14	13
	2000 **	NT	NT	NT	NT	NT
North Station						
64	1990	12	10	12	13	12
	1993	12	11	13	13	12
	1993 **	NT	NT	NT	NT	NT
	1995	12	10	12	13	12
	1995 **	NT	NT	NT	NT	NT
	2000	16	12	15	17	15
	2000 **	NT	NT	NT	NT	NT
65	1990	15	12	15	17	15
	1993	13	10	12	13	12
	1993 **	NT	NT	NT	NT	NT
	1995	11	9	11	12	11
	1995 **	NT	NT	NT	NT	NT
	2000	15	12	15	17	15
	2000 **	NT	NT	NT	NT	NT

* Value based on previous tests
** With mitigation

SUMMARY OF EFFECTIVE WIND SPEEDS

Nashua Street

Location	Configuration	Spring	Summer	Fall	Winter	Annual
48	1990	20	17	20	20	20
	1993	18	16	19	19	18
	1993 **	19	17	20	20	19
	1995	21	18	21	22	21
	1995 **	20	18	20	21	20
	2000	23	19	23	24	23
	2000 **	21	18	22	22	21

Lancaster, Portland, Friend, Canal Streets

4	1990	17	15	17	18	17
	1993	18	15	17	18	17
	1993 **	NT	NT	NT	NT	NT
	1995	19	16	19	19	19
	1995 **	NT	NT	NT	NT	NT
	2000	27	21	26	27	26
	2000 **	NT	NT	NT	NT	NT
9	1990	14	12	14	15	14
	1993	16	12	16	17	16
	1993 **	NT	NT	NT	NT	NT
	1995	18	14	18	19	18
	1995 **	NT	NT	NT	NT	NT
	2000	18	14	18	19	18
	2000 **	NT	NT	NT	NT	NT
13	1990	18	15	18	20	18
	1993	20	16	20	21	20
	1993 **	NT	NT	NT	NT	NT
	1995	24	18	23	24	23
	1995 **	NT	NT	NT	NT	NT
	2000	23	18	23	24	23
	2000 **	NT	NT	NT	NT	NT
22	1990	15	11	14	16	15
	1993	19	14	18	19	18
	1993 **	19	14	18	19	18
	1995	24	18	23	25	23
	1995 **	NT	NT	NT	NT	NT
	2000	20	15	19	19	19
	2000 **	NT	NT	NT	NT	NT

Boat Landing

63	1990	24	18	23	25	23
	1993	24	18	24	26	24
	1993 **	26	20	26	28	26
	1995	25	19	24	26	24
	1995 **	26	20	26	28	26
	2000	22	18	22	23	22
	2000 **	NT	NT	NT	NT	NT

* Value based on previous tests
** With mitigation

Table Wind - D17 **SUMMARY OF MEAN WIND SPEEDS**

North Station

Location	Configuration	Spring	Summer	Fall	Winter	Annual
66	1990	17	13	17	18	17
	1993	8	7	8	9	8
	1993 **	NT	NT	NT	NT	NT
	1995	8	6	8	9	8
	1995 **	NT	NT	NT	NT	NT
	2000	12	9	12	13	12
	2000 **	NT	NT	NT	NT	NT
67	1990	18	14	18	19	18
	1993	9	7	8	9	9
	1993 **	NT	NT	NT	NT	NT
	1995	9	7	9	10	9
	1995 **	NT	NT	NT	NT	NT
	2000	15	12	15	16	15
	2000 **	NT	NT	NT	NT	NT
68	1990	15	12	14	15	14
	1993	6	5	6	7	6
	1993 **	NT	NT	NT	NT	NT
	1995	6	5	6	7	6
	1995 **	NT	NT	NT	NT	NT
	2000	5	4	5	6	5
	2000 **	NT	NT	NT	NT	NT
69	1990	13	11	13	13	13
	1993	5	4	5	5	5
	1993 **	NT	NT	NT	NT	NT
	1995	5	4	5	5	5
	1995 **	NT	NT	NT	NT	NT
	2000	4	4	4	5	4
	2000 **	NT	NT	NT	NT	NT
70	1990	16	12	16	17	16
	1993	9	7	9	9	9
	1993 **	NT	NT	NT	NT	NT
	1995	6	5	6	6	6
	1995 **	NT	NT	NT	NT	NT
	2000	8	7	8	9	8
	2000 **	NT	NT	NT	NT	NT
71	1990	14	11	14	14	14
	1993	5	4	5	5	5
	1993 **	NT	NT	NT	NT	NT
	1995	5	4	5	5	5
	1995 **	NT	NT	NT	NT	NT
	2000	5	4	5	5	5
	2000 **	NT	NT	NT	NT	NT

* Value based on previous tests
** With mitigation

Table Wind - D18 **SUMMARY OF EFFECTIVE WIND SPEEDS**

Boat Landing

Location	Configuration	Spring	Summer	Fall	Winter	Annual
64	1990	20	16	19	20	19
	1993	19	16	19	19	19
	1993 **	NT	NT	NT	NT	NT
	1995	19	16	19	19	19
	1995 **	NT	NT	NT	NT	NT
	2000	23	18	22	24	22
	2000 **	NT	NT	NT	NT	NT
65	1990	21	16	20	23	21
	1993	17	14	17	18	17
	1993 **	NT	NT	NT	NT	NT
	1995	17	14	16	18	16
	1995 **	NT	NT	NT	NT	NT
	2000	21	17	21	23	21
	2000 **	NT	NT	NT	NT	NT
66	1990	24	19	24	25	24
	1993	12	10	12	13	12
	1993 **	NT	NT	NT	NT	NT
	1995	13	10	13	14	13
	1995 **	NT	NT	NT	NT	NT
	2000	18	14	18	19	18
	2000 **	NT	NT	NT	NT	NT
67	1990	25	19	25	26	25
	1993	15	11	14	15	14
	1993 **	NT	NT	NT	NT	NT
	1995	14	11	14	15	14
	1995 **	NT	NT	NT	NT	NT
	2000	23	18	23	25	23
	2000 **	NT	NT	NT	NT	NT
68	1990	21	17	21	21	21
	1993	11	8	10	12	11
	1993 **	NT	NT	NT	NT	NT
	1995	13	9	12	13	12
	1995 **	NT	NT	NT	NT	NT
	2000	10	8	10	10	10
	2000 **	NT	NT	NT	NT	NT
69	1990	20	16	19	20	19
	1993	12	10	12	13	12
	1993 **	NT	NT	NT	NT	NT
	1995	15	10	14	16	14
	1995 **	NT	NT	NT	NT	NT
	2000	10	8	10	11	10
	2000 **	NT	NT	NT	NT	NT
70	1990	22	18	22	23	22
	1993	16	12	15	17	16
	1993 **	NT	NT	NT	NT	NT
	1995	10	8	10	11	10
	1995 **	NT	NT	NT	NT	NT
	2000	17	15	17	17	17
	2000 **	NT	NT	NT	NT	NT

* Value based on previous tests
** With mitigation

Table Wind - D19 **SUMMARY OF MEAN WIND SPEEDS**

Periphery of the Project Site

Location	Configuration	Spring	Summer	Fall	Winter	Annual
33	1990	NT	NT	NT	NT	NT
	1993	18	14	18	19	18
	1993 **	16	12	16	16	16
	1995	23	18	22	24	22
	1995 **	9	8	9	10	9
	2000	26	20	25	27	25
	2000 **	9	7	9	10	9
34	1990	6	5	6	7	6
	1993	16	13	15	16	16
	1993 **	18	15	18	18	18
	1995	17	13	15	16	15
	1995 **	13	11	13	14	13
	2000	16	12	15	16	15
	2000 **	15	11	14	16	14
35	1990	NT	NT	NT	NT	NT
	1993	11	9	11	12	11
	1993 **	11	9	11	12	11
	1995	17	13	16	17	16
	1995 **	14	10	13	13	13
	2000	17	14	16	17	17
	2000 **	13	9	12	13	12
36	1990	NT	NT	NT	NT	NT
	1993	11	8	11	11	11
	1993 **	11	8	11	12	11
	1995	12	9	11	12	11
	1995 **	13	9	12	13	12
	2000	14	10	13	14	13
	2000 **	14	11	14	15	14
37	1990	18	14	18	18	18
	1993	27	20	26	28	26
	1993 **	18	13	17	18	17
	1995	28	22	27	29	27
	1995 **	16 *	12 *	15 *	16 *	15 *
	2000	27	21	26	28	26
	2000 **	16	12	15	16	15
38	1990	18	14	18	19	18
	1993	10	7	9	10	9
	1993 **	10	8	10	11	10
	1995	12	9	12	13	12
	1995 **	10	8	10	11	10
	2000	11	9	11	12	11
	2000 **	11	8	11	12	11

* Value based on previous tests
** With mitigation

Table Wind - D20 **SUMMARY OF EFFECTIVE WIND SPEEDS**

Boat Landing

Location	Configuration	Spring	Summer	Fall	Winter	Annual
71	1990	20	17	20	21	20
	1993	11	9	11	11	11
	1993 **	NT	NT	NT	NT	NT
	1995	8	9	8	8	8
	1995 **	NT	NT	NT	NT	NT
	2000	8	6	8	8	8
	2000 **	NT	NT	NT	NT	NT

Periperhy of the Project Site

33	1990	NT	NT	NT	NT	NT
	1993	25	20	25	26	25
	1993 **	23	18	23	24	23
	1995	31	24	30	33	31
	1995 **	16	12	16	17	16
	2000	34	26	33	36	33
	2000 **	16	12	15	16	15
34	1990	18	14	17	19	17
	1993	25	20	24	25	24
	1993 **	26	21	25	26	25
	1995	24	18	22	23	22
	1995 **	19	15	19	20	19
	2000	23	18	22	23	22
	2000 **	22	17	22	24	22
35	1990	NT	NT	NT	NT	NT
	1993	18	14	18	19	18
	1993 **	17	13	17	19	17
	1995	23	18	22	23	22
	1995 **	21	16	20	22	20
	2000	24	19	23	25	24
	2000 **	21	17	21	22	20
36	1990	NT	NT	NT	NT	NT
	1993	18	13	17	17	17
	1993 **	17	13	16	17	16
	1995	17	12	16	17	16
	1995 **	19	14	18	19	18
	2000	19	15	19	20	19
	2000 **	21	16	20	22	20
37	1990	26	21	26	27	26
	1993	35	26	34	35	34
	1993 **	28	25	29	30	28
	1995	37	28	35	37	36
	1995 **	22 *	17 *	21 *	21 *	21 *
	2000	36	28	35	37	35
	2000 **	22	17	21	21	21

* Value based on previous tests
** With mitigation

Table Wind - D21 **SUMMARY OF MEAN WIND SPEEDS**

Periphery of the Project Site

Location	Configuration	Spring	Summer	Fall	Winter	Annual
39	1990	16	13	16	16	16
	1993	15	13	15	15	15
	1993 **	NT	NT	NT	NT	NT
	1995	19	16	19	19	19
	1995 **	NT	NT	NT	NT	NT
	2000	16	13	15	16	15
	2000 **	NT	NT	NT	NT	NT
40	1990	14	12	14	14	14
	1993	17	13	16	17	16
	1993 **	18	12	16	18	16
	1995	17	12	16	17	16
	1995 **	NT	NT	NT	NT	NT
	2000	16	13	16	17	16
	2000 **	13	11	13	14	13
41	1990	18	13	17	19	17
	1993	18	14	17	18	17
	1993 **	15	12	15	16	15
	1995	18	14	17	18	17
	1995 **	NT	NT	NT	NT	NT
	2000	21	18	21	22	21
	2000 **	17	14	17	17	17
42	1990	19	14	18	19	18
	1993	26	21	26	28	26
	1993 **	20	15	20	22	20
	1995	29	22	28	30	28
	1995 **	21	16	20	22	21
	2000	28	21	27	29	27
	2000 **	14	10	12	12	12
43	1990	17	13	16	18	17
	1993	18	14	18	19	18
	1993 **	NT	NT	NT	NT	NT
	1995	18	14	17	19	17
	1995 **	NT	NT	NT	NT	NT
	2000	22	17	22	24	22
	2000 **	12	10	11	12	12
44	1990	15	12	15	15	15
	1993	13	11	13	13	13
	1993 **	NT	NT	NT	NT	NT
	1995	13	10	13	13	12
	1995 **	NT	NT	NT	NT	NT
	2000	18	15	18	19	18
	2000 **	16	13	16	17	16

* Value based on previous tests
** With mitigation

Table Wind - D22 **SUMMARY OF EFFECTIVE WIND SPEEDS**

Periperhy of the Project Site

Location	Configuration	Spring	Summer	Fall	Winter	Annual
38	1990	26	20	25	27	25
	1993	17	13	16	18	16
	1993 **	20	15	19	21	19
	1995	20	15	19	21	19
	1995 **	28	24	28	27	27
	2000	19	15	19	20	19
	2000 **	18	13	17	19	17
39	1990	23	19	23	24	23
	1993	21	18	21	21	21
	1993 **	NT	NT	NT	NT	NT
	1995	27	23	28	28	27
	1995 **	NT	NT	NT	NT	NT
	2000	22	18	22	23	22
	2000 **	NT	NT	NT	NT	NT
40	1990	23	19	23	24	23
	1993	25	19	24	25	24
	1993 **	25	19	24	25	24
	1995	25	19	24	25	24
	1995 **	NT	NT	NT	NT	NT
	2000	24	20	24	25	24
	2000 **	20	16	20	21	20
41	1990	28	21	27	30	28
	1993	25	21	25	26	25
	1993 **	23	19	23	24	23
	1995	25	20	25	25	25
	1995 **	NT	NT	NT	NT	NT
	2000	29	24	29	30	29
	2000 **	25	21	25	26	25
42	1990	30	22	29	31	29
	1993	37	29	37	39	37
	1993 **	30	22	29	32	29
	1995	39	30	38	41	39
	1995 **	30	22	29	32	29
	2000	36	28	35	37	35
	2000 **	26	21	25	27	25
43	1990	29	22	28	30	28
	1993	28	22	28	30	28
	1993 **	NT	NT	NT	NT	NT
	1995	29	22	28	30	28
	1995 **	NT	NT	NT	NT	NT
	2000	31	24	31	33	31
	2000 **	18	15	17	19	17
44	1990	24	19	24	25	24
	1993	22	18	22	22	22
	1993 **	NT	NT	NT	NT	NT
	1995	22	18	22	23	22
	1995 **	NT	NT	NT	NT	NT
	2000	28	22	28	29	28
	2000 **	25	20	25	26	25

* Value based on previous tests
** With mitigation

Table Wind - D23 **SUMMARY OF MEAN WIND SPEEDS**

Periphery of the Project Site

Location	Configuration	Spring	Summer	Fall	Winter	Annual
72	1990	NT	NT	NT	NT	NT
	1993	16	13	16	17	16
	1993 **	NT	NT	NT	NT	NT
	1995	NT	NT	NT	NT	NT
	1995 **	14	11	14	14	14
	2000	NT	NT	NT	NT	NT
	2000 **	10	8	9	10	9
73	1990	NT	NT	NT	NT	NT
	1993	16	13	15	16	15
	1993 **	NT	NT	NT	NT	NT
	1995	NT	NT	NT	NT	NT
	1995 **	16	13	16	16	15
	2000	NT	NT	NT	NT	NT
	2000 **	NT	NT	NT	NT	NT
74	1990	NT	NT	NT	NT	NT
	1993	17	13	16	17	16
	1993 **	NT	NT	NT	NT	NT
	1995	NT	NT	NT	NT	NT
	1995 **	NT	NT	NT	NT	NT
	2000	NT	NT	NT	NT	NT
	2000 **	NT	NT	NT	NT	NT
75	1990	NT	NT	NT	NT	NT
	1993	23	18	23	24	23
	1993 **	14	11	13	13	13
	1995	NT	NT	NT	NT	NT
	1995 **	14	11	14	14	14
	2000	NT	NT	NT	NT	NT
	2000 **	6	5	6	6	5
76	1990	NT	NT	NT	NT	NT
	1993	10	8	10	10	10
	1993 **	NT	NT	NT	NT	NT
	1995	NT	NT	NT	NT	NT
	1995 **	18	14	16	17	17
	2000	NT	NT	NT	NT	NT
	2000 **	NT	NT	NT	NT	NT
77	1990	NT	NT	NT	NT	NT
	1993	9	7	9	9	9
	1993 **	NT	NT	NT	NT	NT
	1995	NT	NT	NT	NT	NT
	1995 **	NT	NT	NT	NT	NT
	2000	NT	NT	NT	NT	NT
	2000 **	NT	NT	NT	NT	NT

* Value based on previous tests
** With mitigation

Periperhy of the Project Site

Location	Configuration	Spring	Summer	Fall	Winter	Annual
72	1990	NT	NT	NT	NT	NT
	1993	24	20	24	26	24
	1993 **	NT	NT	NT	NT	NT
	1995	NT	NT	NT	NT	NT
	1995 **	23	17	22	22	22
	2000	NT	NT	NT	NT	NT
	2000 **	14	12	14	14	14
73	1990	NT	NT	NT	NT	NT
	1993	24	19	23	16	15
	1993 **	NT	NT	NT	NT	NT
	1995	NT	NT	NT	NT	NT
	1995 **	24	19	24	25	24
	2000	NT	NT	NT	NT	NT
	2000 **	NT	NT	NT	NT	NT
74	1990	NT	NT	NT	NT	NT
	1993	26	21	25	17	16
	1993 **	NT	NT	NT	NT	NT
	1995	NT	NT	NT	NT	NT
	1995 **	NT	NT	NT	NT	NT
	2000	NT	NT	NT	NT	NT
	2000 **	NT	NT	NT	NT	NT
75	1990	NT	NT	NT	NT	NT
	1993	32	26	32	24	23
	1993 **	20	16	19	20	19
	1995	NT	NT	NT	NT	NT
	1995 **	22	17	21	22	21
	2000	NT	NT	NT	NT	NT
	2000 **	11	10	11	12	11
76	1990	NT	NT	NT	NT	NT
	1993	19	15	18	10	10
	1993 **	NT	NT	NT	NT	NT
	1995	NT	NT	NT	NT	NT
	1995 **	26	20	24	25	24
	2000	NT	NT	NT	NT	NT
	2000 **	NT	NT	NT	NT	NT
77	1990	NT	NT	NT	NT	NT
	1993	16	13	15	9	9
	1993 **	NT	NT	NT	NT	NT
	1995	NT	NT	NT	NT	NT
	1995 **	NT	NT	NT	NT	NT
	2000	NT	NT	NT	NT	NT
	2000 **	NT	NT	NT	NT	NT
78	1990	NT	NT	NT	NT	NT
	1993	20	16	19	12	11
	1993 **	NT	NT	NT	NT	NT
	1995	NT	NT	NT	NT	NT
	1995 **	NT	NT	NT	NT	NT
	2000	NT	NT	NT	NT	NT
	2000 **	NT	NT	NT	NT	NT

* Value based on previous tests
** With mitigation

Table Wind - D25 **SUMMARY OF MEAN WIND SPEEDS**

Periphery of the Project Site

Location	Configuration	Spring	Summer	Fall	Winter	Annual
78	1990	NT	NT	NT	NT	NT
	1993	11	9	11	12	11
	1993 **	NT	NT	NT	NT	NT
	1995	NT	NT	NT	NT	NT
	1995 **	NT	NT	NT	NT	NT
	2000	NT	NT	NT	NT	NT
	2000 **	NT	NT	NT	NT	NT
79	1990	NT	NT	NT	NT	NT
	1993	20	16	20	21	20
	1993 **	13	11	13	13	13
	1995	NT	NT	NT	NT	NT
	1995 **	9	7	9	9	9
	2000	NT	NT	NT	NT	NT
	2000 **	10	8	10	11	10
80	1990	NT	NT	NT	NT	NT
	1993	NT	NT	NT	NT	NT
	1993 **	22	18	21	23	21
	1995	NT	NT	NT	NT	NT
	1995 **	16	13	16	17	16
	2000	NT	NT	NT	NT	NT
	2000 **	18	14	18	20	18
81	1990	NT	NT	NT	NT	NT
	1993	NT	NT	NT	NT	NT
	1993 **	21	16	20	21	20
	1995	NT	NT	NT	NT	NT
	1995 **	19 *	14 *	17 *	18 *	18 *
	2000	NT	NT	NT	NT	NT
	2000 **	19	14	17	18	18
82	1990	NT	NT	NT	NT	NT
	1993	NT	NT	NT	NT	NT
	1993 **	11	9	11	12	11
	1995	NT	NT	NT	NT	NT
	1995 **	14	11	13	13	13
	2000	NT	NT	NT	NT	NT
	2000 **	18	15	17	18	17

* Value based on previous tests
** With mitigation

Table Wind - D26 **SUMMARY OF EFFECTIVE WIND SPEEDS**

Periperhy of the Project Site

Location	Configuration	Spring	Summer	Fall	Winter	Annual
79	1990	NT	NT	NT	NT	NT
	1993	27	22	27	21	20
	1993 **	20	17	19	20	19
	1995	NT	NT	NT	NT	NT
	1995 **	16	12	15	17	15
	2000	NT	NT	NT	NT	NT
	2000 **	15	12	15	16	15
80	1990	NT	NT	NT	NT	NT
	1993	NT	NT	NT	NT	NT
	1993 **	29	23	29	31	29
	1995	NT	NT	NT	NT	NT
	1995 **	23	18	22	24	22
	2000	NT	NT	NT	NT	NT
	2000 **	27	21	27	29	27
81	1990	NT	NT	NT	NT	NT
	1993	NT	NT	NT	NT	NT
	1993 **	28	21	27	28	27
	1995	NT	NT	NT	NT	NT
	1995 **	25 *	18 *	23 *	24 *	23 *
	2000	NT	NT	NT	NT	NT
	2000 **	25	18	23	24	23
82	1990	NT	NT	NT	NT	NT
	1993	NT	NT	NT	NT	NT
	1993 **	18	14	17	19	17
	1995	NT	NT	NT	NT	NT
	1995 **	22	17	21	21	21
	2000	NT	NT	NT	NT	NT
	2000 **	23	18	22	23	22

* Value based on previous tests
** With mitigation

E. MEAN WIND SPEED RATIO TABLES

PEDESTRIAN LEVEL WIND TEST DATA

The wind speed ratios presented in this section are ratio of the wind speed at each sensor location (5 feet above the ground) to the mean wind speed which would typically occur at the 5 foot level in an exposed suburban area (e.g. baseball field).

To better understand this, consider the wind speed ratio presented for Location 28 on Table E-246 shown on Figure 1. The data of this table presents information pertaining to the 1993 New Boston Garden condition along the study section of Causeway Street. The conditions at Location 28 (Figure 1) indicate that a mean wind speed ratio of 0.5 occurs for a west-southwest wind direction (wind blowing from the west-southwest). This ratio indicates that, for a west-southwest wind direction, the 5 foot level wind speed would be 0.5 times or 50% less than the wind speed at the 5 foot level in an exposed location outside of the city. Hence, a 10 mph mean wind speed would be reduced to 5 mph at Location 28 for a west-southwest wind direction.

The second wind speed ratio given in the tables for the 1993 New Boston Garden condition presents the gust speed ratio during the wind tunnel tests. This ratio can be interpreted in a similar manner as described for the mean wind speed rations (i.e. gusts of 2.2 times the suburban mean wind speed will occur for the west-southwest winds).

The next two columns of values for each location present a weighting factor for the spring (SPR) and for the fall (FALL). These factors are a measure of how each wind direction affects the overall comfort level at each location. The weighting factor is derived from an analysis of the wind tunnel test data (gust wind speed ratios) and the wind records obtained from the Logan International Airport weather station. As a result of this analysis, the weighting factor is dependent upon each of the following:

- the gust wind speed ratio measured at the sensor
- the frequency of occurrence of the wind direction being examined
- the strength of the wind for the same wind direction examined

The weighting factors are expressed as a percentage. For instance, the spring weighting factor for our example, Location 28 and a northeast wind direction is 30%. This indicates that 30% of the time when a threshold wind gust speed is exceeded at Location 28, the wind will occur from this direction. The tables in this section use the wind gust speeds, expected to occur once a month at each of the locations tested, as the threshold wind gust speeds. The weighting factors allow one to look at each sensor location and immediately determine which wind direction(s) has the greatest impact on the resultant wind comfort level. For example, the most important wind directions from Location 28 during the spring are NE and NNW. Since the weighting factors are based on a meteorological data analysis, they will vary from season to season for a given test location and wind direction.

The data in this section is useful to compare the impact of the different theoretical masses tested to the existing site conditions on a direction by direction basis.

Table 1 **LOCATION 28**

Wind Angle	Ratios		Weight	
	Mean	Gust	Summer	Winter
NNE	1.5	3.1	10	7
NE	1.4	2.9	30	22
SSW	.9	2.3	0	0
WSW	.5	2.2	0	0
W	.6	2.3	0	0
NNW	1.3	2.5	40	41

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	1.9	0
NE	.9	2.0	0
ENE	1.1	2.5	0
E	1.6	3.1	2
ESE	2.0	3.3	8
SE	1.4	2.7	0
SSE	1.1	2.5	0
S	.9	2.6	0
SSW	1.0	2.3	0
SW	1.4	2.9	4
WSW	2.6	4.1	59
W	1.7	3.3	15
WNW	1.3	2.8	4
NW	1.4	2.5	9
NNW	.6	1.6	0
N	.8	1.9	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	1.0	2.4	6
ENE	1.1	2.5	6
E	1.0	2.1	1
ESE	1.4	2.5	21
SE	1.0	2.1	0
SSE	.7	1.9	0
S	.2	2.0	0
SSW	1.0	2.8	0
SW	.9	2.8	6
WSW	1.1	2.9	9
W	1.2	3.0	37
WNW	.9	3.0	10
NW	.8	2.5	3
NNW	.6	2.0	0
N	.7	1.9	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.2	0
NE	.6	1.9	0
ENE	.4	1.7	0
E	.6	1.7	0
ESE	.7	1.8	0
SE	.8	1.8	0
SSE	.4	1.9	0
S	.6	2.1	0
SSW	.7	2.1	0
SW	1.0	2.4	0
WSW	2.5	3.9	66
W	1.6	2.9	13
WNW	1.4	2.8	10
NW	1.3	2.5	9
NNW	.7	2.1	0
N	.4	1.7	0

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.8	0
NE	.7	2.0	3
ENE	.7	2.0	3
E	.8	1.9	1
ESE	.9	2.0	4
SE	.7	1.8	0
SSE	.5	1.6	0
S	.8	2.3	2
SSW	.9	2.4	5
SW	.7	1.8	9
WSW	1.1	2.2	32
W	.7	1.6	3
WNW	.8	1.7	30
NW	.6	1.6	7
NNW	.4	1.8	0
N	.5	1.7	0

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	.6	1.7	0
ENE	.5	1.5	0
E	.8	1.8	0
ESE	1.0	2.2	0
SE	.8	1.9	0
SSE	.4	1.8	0
S	.6	1.8	0
SSW	.5	1.7	0
SW	.9	2.1	1
WSW	1.9	3.7	56
W	1.2	2.5	8
WNW	1.2	2.7	26
NW	1.1	2.2	8
NNW	.9	2.2	1
N	.6	1.9	0

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	1.3	0
NE	.5	1.3	1
ENE	.4	1.4	0
E	.8	1.9	5
ESE	.9	2.5	24
SE	.6	1.9	0
SSE	.3	2.2	0
S	.5	1.8	0
SSW	.5	1.7	0
SW	.6	1.5	9
WSW	.7	1.5	6
W	.6	1.5	4
WNW	.6	1.6	19
NW	.7	1.5	32
NNW	.4	1.3	0
N	.3	1.3	0

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.8	1
NE	.5	1.5	0
ENE	.3	1.6	0
E	.9	2.5	4
ESE	.8	2.0	1
SE	.7	1.9	0
SSE	.1	1.8	0
S	.6	2.0	0
SSW	.8	2.0	1
SW	.7	1.7	3
WSW	1.2	2.4	50
W	.8	1.8	16
WNW	.6	2.1	4
NW	.7	1.6	11
NNW	.7	1.6	5
N	.6	1.4	0

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.3	1
NE	.1	1.5	0
ENE	.1	1.4	0
E	.6	1.6	0
ESE	1.0	2.4	24
SE	.7	2.0	0
SSE	.5	2.0	0
S	.5	1.8	0
SSW	1.0	2.0	15
SW	.5	1.4	0
WSW	1.0	2.3	34
W	.8	2.1	18
WNW	.5	1.9	0
NW	.6	1.8	5
NNW	.6	2.0	3
N	.6	1.6	1

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	1
NE	.5	1.9	1
ENE	.6	1.7	5
E	.4	1.6	0
ESE	.9	2.3	27
SE	.1	1.7	0
SSE	.4	1.4	0
S	.2	1.5	0
SSW	.7	1.6	2
SW	.6	1.5	13
WSW	.6	1.5	2
W	.1	1.4	0
WNW	.6	1.6	14
NW	.7	1.5	34
NNW	.4	1.5	1
N	.6	1.8	1

TABLE E-1
MEAN WIND SPEED RATIOS

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	1.9	0
NE	.9	2.0	0
ENE	1.1	2.5	1
E	1.6	3.1	2
ESE	2.0	3.3	4
SE	1.4	2.7	0
SSE	1.1	2.5	0
S	.9	2.6	0
SSW	1.0	2.3	0
SW	1.4	2.9	8
WSW	2.6	4.1	41
W	1.7	3.3	25
WNW	1.3	2.8	9
NW	1.4	2.5	10
NNW	.6	1.6	0
N	.8	1.9	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	1.0	2.4	3
ENE	1.1	2.5	4
E	1.0	2.1	0
ESE	1.4	2.5	1
SE	1.0	2.1	0
SSE	.7	1.9	0
S	.2	2.0	0
SSW	1.0	2.8	1
SW	.9	2.8	13
WSW	1.1	2.9	6
W	1.2	3.0	36
WNW	.9	3.0	26
NW	.8	2.5	8
NNW	.6	2.0	1
N	.7	1.9	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.2	0
NE	.6	1.9	0
ENE	.4	1.7	0
E	.6	1.7	0
ESE	.7	1.8	0
SE	.8	1.8	0
SSE	.4	1.9	0
S	.6	2.1	0
SSW	.7	2.1	0
SW	1.0	2.4	1
WSW	2.5	3.9	48
W	1.6	2.9	18
WNW	1.4	2.8	22
NW	1.3	2.5	11
NNW	.7	2.1	0
N	.4	1.7	0

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.6	0
NE	.7	2.0	7
ENE	.7	2.0	6
E	.8	1.9	2
ESE	.9	2.0	5
SE	.7	1.8	0
SSE	.5	1.6	0
S	.8	2.3	11
SSW	.9	2.4	9
SW	.7	1.8	11
WSW	1.1	2.2	21
W	.7	1.6	2
WNW	.8	1.7	15
NW	.6	1.6	6
NNW	.4	1.8	5
N	.5	1.7	0

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	.6	1.7	0
ENE	.5	1.5	0
E	.8	1.8	0
ESE	1.0	2.2	0
SE	.8	1.9	0
SSE	.4	1.8	0
S	.6	1.8	0
SSW	.5	1.7	0
SW	.9	2.1	2
WSW	1.9	3.7	46
W	1.2	2.5	10
WNW	1.2	2.7	30
NW	1.1	2.2	9
NNW	.9	2.2	3
N	.6	1.9	0

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	1.3	0
NE	.5	1.3	0
ENE	.4	1.4	0
E	.8	1.9	5
ESE	.9	2.5	41
SE	.6	1.9	0
SSE	.3	2.2	0
S	.5	1.8	1
SSW	.5	1.7	0
SW	.6	1.5	7
WSW	.7	1.5	3
W	.6	1.5	3
WNW	.6	1.6	22
NW	.7	1.5	16
NNW	.4	1.3	0
N	.3	1.3	0

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.8	1
NE	.5	1.5	0
ENE	.3	1.6	1
E	.9	2.5	12
ESE	.8	2.0	6
SE	.7	1.8	0
SSE	.1	1.8	0
S	.6	2.0	2
SSW	.8	2.0	2
SW	.7	1.7	6
WSW	1.2	2.4	25
W	.8	1.8	10
WNW	.6	2.1	24
NW	.7	1.6	8
NNW	.7	1.6	3
N	.6	1.4	0

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.3	3
NE	.1	1.5	0
ENE	.1	1.4	0
E	.6	1.6	0
ESE	1.0	2.4	14
SE	.7	2.0	0
SSE	.5	2.0	0
S	.5	1.8	0
SSW	1.0	2.0	4
SW	.5	1.4	0
WSW	1.0	2.3	19
W	.8	2.1	25
WNW	.5	1.9	12
NW	.6	1.8	10
NNW	.6	2.0	12
N	.6	1.6	0

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	7
NE	.5	1.9	9
ENE	.6	1.7	7
E	.4	1.6	1
ESE	.9	2.3	34
SE	.1	1.7	0
SSE	.4	1.4	0
S	.2	1.5	0
SSW	.7	1.6	1
SW	.6	1.5	10
WSW	.6	1.5	2
W	.1	1.4	0
WNW	.6	1.6	15
NW	.7	1.5	7
NNW	.4	1.5	4
N	.6	1.8	3

TABLE E-2
EFFECTIVE WIND SPEED RATIOS

LOCATION 10

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.9	2.3	4
NE	.8	1.7	12
ENE	.6	1.6	2
E	.1	1.5	0
ESE	.4	1.4	0
SE	.3	1.6	0
SSE	.4	1.5	0
S	.5	1.6	0
SSW	.7	1.8	0
SW	.5	1.3	1
WSW	.5	1.8	0
W	.7	1.9	11
WNW	.7	1.8	27
NW	.8	1.8	32
NNW	.7	1.8	11
N	.6	1.9	0

LOCATION 11

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	2
NE	.8	2.3	12
ENE	.9	2.0	12
E	.6	2.0	0
ESE	1.0	2.3	16
SE	.8	2.2	0
SSE	.8	2.3	0
S	1.0	2.4	18
SSW	.9	2.4	8
SW	.6	1.4	6
WSW	.6	1.8	0
W	.4	1.7	0
WNW	.1	1.6	0
NW	.7	1.4	16
NNW	.6	1.3	2
N	.9	1.8	7

LOCATION 12

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.3	2.1	0
NE	.4	2.0	0
ENE	.6	2.2	2
E	.7	2.3	2
ESE	.7	2.0	1
SE	.6	1.6	0
SSE	.5	1.8	0
S	.7	1.8	2
SSW	.8	1.9	2
SW	.7	1.8	10
WSW	.3	1.9	0
W	.8	2.6	39
WNW	.5	2.5	2
NW	.7	2.0	18
NNW	.6	1.6	8
N	1.0	2.2	16

LOCATION 13

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.6	2.6	0
NE	.4	2.1	0
ENE	.6	2.1	0
E	.5	2.0	0
ESE	.7	1.9	0
SE	.1	1.7	0
SSE	.1	1.4	0
S	.5	1.7	0
SSW	.6	1.6	0
SW	1.0	2.1	43
WSW	.6	1.7	0
W	1.0	2.3	42
WNW	.6	1.6	1
NW	.6	1.5	1
NNW	.8	2.0	14
N	.7	2.4	0

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	.5	1.8	0
ENE	.7	1.7	5
E	.4	1.7	0
ESE	.3	1.6	0
SE	1.0	2.1	2
SSE	.7	1.7	0
S	.6	1.6	0
SSW	.6	1.6	0
SW	.2	1.3	0
WSW	.1	1.6	0
W	.6	2.2	1
WNW	.8	2.1	30
NW	.7	1.8	12
NNW	.8	1.6	22
N	1.2	2.7	28

LOCATION 15

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	1.5	0
NE	.1	1.3	0
ENE	.7	1.8	0
E	1.2	2.6	5
ESE	1.9	3.2	78
SE	1.3	2.7	1
SSE	.8	2.2	0
S	.9	2.6	0
SSW	.9	2.3	0
SW	.3	1.3	0
WSW	.4	1.6	0
W	.4	1.7	0
WNW	.7	1.6	0
NW	1.0	1.7	12
NNW	.9	1.7	3
N	.7	1.5	0

LOCATION 16

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.6	1.3	0
NE	.2	1.3	0
ENE	.4	1.4	0
E	.9	2.2	4
ESE	1.2	2.4	37
SE	1.1	2.4	2
SSE	.9	2.1	0
S	.8	2.0	3
SSW	.9	2.0	1
SW	.4	1.2	0
WSW	.3	1.3	0
W	.6	1.5	0
WNW	.7	1.4	8
NW	.8	1.5	21
NNW	.9	1.5	22
N	.6	1.4	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.4	0
NE	.4	1.3	0
ENE	.6	1.6	0
E	1.0	2.1	6
ESE	1.4	2.7	78
SE	1.0	2.5	1
SSE	.7	2.0	0
S	.8	2.3	2
SSW	.9	2.3	3
SW	.1	1.2	0
WSW	.3	1.3	0
W	.6	1.5	1
WNW	.6	1.4	1
NW	.6	1.4	3
NNW	.6	1.4	1
N	.9	2.1	4

LOCATION 18

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	1.4	0
NE	.3	1.3	0
ENE	.6	1.5	1
E	.9	2.1	5
ESE	1.3	2.6	73
SE	1.0	2.3	2
SSE	.9	2.0	1
S	.7	1.7	0
SSW	.8	1.8	2
SW	.1	1.2	0
WSW	.4	1.2	0
W	.6	1.5	2
WNW	.7	1.4	9
NW	.3	1.4	0
NNW	.6	1.4	4
N	.6	1.6	0

TABLE E-3
MEAN WIND SPEED RATIOS

LOCATION 10

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.9	2.3	7
NE	.8	1.7	6
ENE	.6	1.6	2
E	.1	1.5	0
ESE	.4	1.4	0
SE	.3	1.6	0
SSE	.4	1.5	0
S	.5	1.6	0
SSW	.7	1.8	1
SW	.5	1.3	0
WSW	.5	1.8	1
W	.7	1.9	16
WNW	.7	1.8	31
NW	.8	1.8	22
NNW	.7	1.8	13
N	.6	1.9	1

LOCATION 11

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	3
NE	.8	2.3	18
ENE	.9	2.0	13
E	.6	2.0	2
ESE	1.0	2.3	19
SE	.8	2.2	1
SSE	.8	2.3	1
S	1.0	2.4	23
SSW	.9	2.4	9
SW	.6	1.4	1
WSW	.6	1.8	3
W	.4	1.7	2
WNW	.1	1.6	0
NW	.7	1.4	3
NNW	.6	1.3	0
N	.9	1.8	3

LOCATION 12

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.3	2.1	0
NE	.4	2.0	1
ENE	.6	2.2	4
E	.7	2.3	3
ESE	.7	2.0	1
SE	.6	1.6	0
SSE	.5	1.8	0
S	.7	1.8	1
SSW	.8	1.9	0
SW	.7	1.8	2
WSW	.3	1.9	0
W	.8	2.6	43
WNW	.5	2.5	28
NW	.7	2.0	13
NNW	.6	1.6	2
N	1.0	2.2	4

LOCATION 13

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.6	2.6	3
NE	.4	2.1	2
ENE	.6	2.1	5
E	.5	2.0	0
ESE	.7	1.9	0
SE	.1	1.7	0
SSE	.1	1.4	0
S	.5	1.7	0
SSW	.6	1.6	0
SW	1.0	2.1	27
WSW	.6	1.7	0
W	1.0	2.3	43
WNW	.6	1.6	1
NW	.6	1.5	1
NNW	.8	2.0	12
N	.7	2.4	5

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	1
NE	.5	1.8	2
ENE	.7	1.7	3
E	.4	1.7	0
ESE	.3	1.6	0
SE	1.0	2.1	1
SSE	.7	1.7	0
S	.6	1.6	0
SSW	.6	1.6	0
SW	.2	1.3	0
WSW	.1	1.6	0
W	.6	2.2	21
WNW	.8	2.1	30
NW	.7	1.8	12
NNW	.8	1.6	5
N	1.2	2.7	26

LOCATION 15

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	1.5	0
NE	.1	1.3	81
ENE	.7	1.8	0
E	1.2	2.6	2
ESE	1.9	3.2	15
SE	1.3	2.7	0
SSE	.8	2.2	0
S	.9	2.6	0
SSW	.9	2.3	0
SW	.3	1.3	0
WSW	.4	1.8	0
W	.4	1.7	0
WNW	.7	1.6	0
NW	1.0	1.7	0
NNW	.9	1.7	0
N	.7	1.7	0

LOCATION 16

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.6	1.3	0
NE	.2	1.3	0
ENE	.4	1.4	1
E	.9	2.2	10
ESE	1.2	2.4	40
SE	1.1	2.4	4
SSE	.9	2.1	1
S	.8	2.0	9
SSW	.9	2.0	4
SW	.4	1.2	0
WSW	.3	1.3	0
W	.6	1.5	3
WNW	.7	1.4	3
NW	.8	1.5	13
NNW	.9	1.5	13
N	.6	1.4	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.4	0
NE	.4	1.3	0
ENE	.6	1.6	2
E	1.0	2.1	7
ESE	1.4	2.7	59
SE	1.0	2.5	2
SSE	.7	2.0	0
S	.8	2.3	12
SSW	.9	2.3	7
SW	.1	1.2	0
WSW	.3	1.3	0
W	.6	1.5	1
WNW	.6	1.4	1
NW	.6	1.4	4
NNW	.6	1.4	1
N	.9	2.1	5

LOCATION 18

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	1.4	0
NE	.3	1.3	0
ENE	.6	1.5	2
E	.9	2.1	7
ESE	1.3	2.6	74
SE	1.0	2.3	3
SSE	.9	2.0	1
S	.7	1.7	2
SSW	.8	1.8	1
SW	.1	1.2	0
WSW	.4	1.2	0
W	.6	1.5	3
WNW	.7	1.4	4
NW	.3	1.4	1
NNW	.6	1.4	1
N	.6	1.6	1

TABLE E-4
EFFECTIVE WIND SPEED RATIOS

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.3	0
NE	.4	1.4	0
ENE	.7	1.8	5
E	.9	2.0	5
ESE	1.2	2.5	48
SE	.8	2.3	0
SSE	.8	2.0	0
S	.8	2.4	5
SSW	1.0	2.4	10
SW	.4	1.3	0
WSW	.1	1.4	0
W	.8	1.8	12
WNW	.5	1.4	1
NW	.3	1.3	0
NNW	.7	1.4	9
N	.9	1.9	5

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.3	0
NE	.1	1.3	0
ENE	.5	1.5	0
E	.1	1.3	0
ESE	.6	1.8	0
SE	.1	1.7	0
SSE	.6	2.0	0
S	.8	2.2	3
SSW	1.0	2.3	16
SW	.4	1.3	0
WSW	.4	1.2	0
W	.7	1.5	6
WNW	.7	1.4	24
NW	.7	1.4	19
NNW	.8	1.4	29
N	.8	1.9	4

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	1
NE	1.1	2.4	7
ENE	1.1	2.3	7
E	1.1	2.6	4
ESE	1.2	2.5	6
SE	.8	1.7	0
SSE	.6	1.8	0
S	.8	1.8	0
SSW	1.2	2.2	5
SW	.6	1.5	0
WSW	.9	2.3	1
W	1.3	3.0	58
WNW	.7	2.0	0
NW	.5	1.4	0
NNW	1.0	1.8	11
N	.9	2.2	1

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.3	1.8	0
NE	.1	2.2	0
ENE	.1	2.2	0
E	.6	2.2	2
ESE	.9	1.9	25
SE	.4	1.5	0
SSE	.4	1.5	0
S	.3	1.4	0
SSW	.5	1.4	0
SW	.4	1.3	1
WSW	.6	1.5	2
W	.7	1.7	24
WNW	.6	1.5	28
NW	.5	1.4	3
NNW	.6	1.6	11
N	.8	2.6	8

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.1	0
NE	.3	1.2	0
ENE	.1	1.1	0
E	.1	1.3	0
ESE	.1	1.2	0
SE	.1	1.2	0
SSE	.1	1.1	0
S	.3	1.2	0
SSW	.5	1.3	1
SW	.4	1.2	6
WSW	.5	1.2	5
W	.5	1.4	17
WNW	.5	1.3	54
NW	.2	1.2	0
NNW	.1	1.2	0
N	.5	1.3	1

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.3	0
NE	.5	1.3	0
ENE	.4	1.8	0
E	.6	2.3	0
ESE	.8	2.0	0
SE	.9	2.2	0
SSE	.9	2.3	0
S	1.3	3.0	29
SSW	1.8	3.1	67
SW	.3	1.5	0
WSW	.5	1.5	0
W	.8	1.7	3
WNW	.6	1.3	0
NW	.4	1.2	0
NNW	.4	1.2	0
N	.5	1.3	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.4	0
NE	.8	1.5	4
ENE	.1	1.7	0
E	.3	2.2	0
ESE	.1	1.7	0
SE	.6	1.9	0
SSE	.5	2.0	0
S	.9	2.5	6
SSW	1.8	3.1	90
SW	.1	1.4	0
WSW	.5	1.3	0
W	.6	1.5	0
WNW	.4	1.3	0
NW	.4	1.2	0
NNW	.5	1.2	0
N	.5	1.2	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	1.7	6
NE	1.1	2.1	47
ENE	.7	1.8	8
E	.7	2.3	3
ESE	.8	2.7	8
SE	.9	2.6	1
SSE	.7	2.2	0
S	.6	1.7	1
SSW	.9	2.3	8
SW	.6	1.8	5
WSW	.6	1.6	1
W	.6	1.3	5
WNW	.1	1.9	0
NW	.6	1.3	6
NNW	.4	1.7	0
N	.6	1.3	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	1
NE	1.1	2.3	27
ENE	.7	1.6	4
E	.6	1.9	0
ESE	.9	2.4	6
SE	.8	1.8	0
SSE	.8	2.0	0
S	.6	2.1	0
SSW	1.1	2.0	14
SW	.6	1.6	4
WSW	.6	1.8	0
W	.7	2.2	9
WNW	.6	1.7	2
NW	.7	1.6	12
NNW	.8	1.7	16
N	.8	1.8	3

TABLE E-5
MEAN WIND SPEED RATIOS

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.3	0
NE	.4	1.4	0
ENE	.7	1.8	4
E	.9	2.0	4
ESE	1.2	2.5	36
SE	.8	2.3	1
SSE	.8	2.0	1
S	.8	2.4	16
SSW	1.0	2.4	11
SW	.4	1.3	0
WSW	.1	1.4	0
W	.8	1.8	17
WNW	.5	1.4	2
NW	.3	1.3	0
NNW	.7	1.4	2
N	.9	1.9	5

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.3	0
NE	.1	1.3	0
ENE	.5	1.5	1
E	.1	1.3	0
ESE	.6	1.8	6
SE	.1	1.7	16
SSE	.6	2.0	0
S	.8	2.2	20
SSW	1.0	2.3	18
SW	.4	1.3	0
WSW	.4	1.2	0
W	.7	1.5	4
WNW	.7	1.4	7
NW	.7	1.4	12
NNW	.8	1.4	10
N	.8	1.9	7

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	1
NE	1.1	2.4	6
ENE	1.1	2.3	6
E	1.1	2.6	3
ESE	1.2	2.5	2
SE	.6	1.7	0
SSE	.6	1.8	0
S	.8	1.8	0
SSW	1.2	2.2	1
SW	.6	1.5	0
WSW	.9	2.3	2
W	1.3	3.0	72
WNW	.7	2.0	1
NW	.5	1.4	0
NNW	1.0	1.8	3
N	.9	2.2	1

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.3	1.8	0
NE	.1	2.2	4
ENE	.1	2.2	4
E	.6	2.2	11
ESE	.9	1.9	10
SE	.4	1.5	0
SSE	.4	1.5	0
S	.3	1.4	0
SSW	.5	1.4	0
SW	.4	1.3	0
WSW	.6	1.5	1
W	.7	1.7	27
WNW	.6	1.5	6
NW	.5	1.4	0
NNW	.6	1.6	10
N	.8	2.6	26

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.1	0
NE	.3	1.2	1
ENE	.1	1.1	0
E	.1	1.3	0
ESE	.1	1.2	0
SE	.1	1.2	0
SSE	.1	1.1	0
S	.3	1.2	0
SSW	.5	1.3	0
SW	.4	1.2	2
WSW	.5	1.2	6
W	.5	1.4	59
WNW	.5	1.3	31
NW	.2	1.2	0
NNW	.1	1.2	2
N	.5	1.3	0

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.3	0
NE	.5	1.3	0
ENE	.4	1.8	1
E	.6	2.3	2
ESE	.8	2.0	1
SE	.9	2.2	0
SSE	.9	2.3	0
S	1.3	3.0	45
SSW	1.8	3.1	47
SW	.3	1.5	0
WSW	.5	1.5	0
W	.8	1.7	4
WNW	.6	1.3	0
NW	.4	1.2	0
NNW	.4	1.2	0
N	.5	1.3	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.4	0
NE	.8	1.5	2
ENE	.1	1.7	0
E	.3	2.2	2
ESE	.1	1.7	0
SE	.6	1.9	0
SSE	.5	2.0	0
S	.9	2.5	29
SSW	1.8	3.1	67
SW	.1	1.4	0
WSW	.5	1.3	0
W	.6	1.5	0
WNW	.4	1.3	0
NW	.4	1.2	0
NNW	.5	1.2	0
N	.5	1.2	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	1.7	1
NE	1.1	2.1	27
ENE	.7	1.8	7
E	.7	2.3	11
ESE	.8	2.7	34
SE	.9	2.6	3
SSE	.7	2.2	1
S	.6	1.7	2
SSW	.9	2.3	7
SW	.6	1.8	0
WSW	.6	1.6	1
W	.6	1.3	0
WNW	.1	1.9	0
NW	.6	1.3	0
NNW	.4	1.7	4
N	.6	1.3	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	2
NE	1.1	2.3	28
ENE	.7	1.6	2
E	.6	1.9	1
ESE	.9	2.4	16
SE	.8	1.8	0
SSE	.8	2.0	1
S	.6	2.1	1
SSW	1.1	2.0	6
SW	.6	1.6	0
WSW	.6	1.8	1
W	.7	2.2	15
WNW	.6	1.7	7
NW	.7	1.6	5
NNW	.8	1.7	12
N	.8	1.8	2

TABLE E-6
EFFECTIVE WIND SPEED RATIOS

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.5	0
NE	1.1	2.1	2
ENE	1.1	2.6	3
E	1.7	3.3	16
ESE	2.1	3.8	76
SE	2.3	4.0	8
SSE	1.9	3.5	3
S	.8	2.3	0
SSW	.6	2.0	0
SW	.9	2.3	5
WSW	1.2	2.2	2
W	.8	1.9	1
WNW	.6	2.2	0
NW	.8	1.7	0
NNW	.8	2.0	1
N	.8	1.6	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	1.9	0
NE	.7	2.4	16
ENE	1.1	2.8	31
E	.5	2.2	1
ESE	.8	2.2	4
SE	.8	2.4	1
SSE	.8	2.7	1
S	.7	2.0	3
SSW	1.1	2.3	13
SW	.6	1.8	3
WSW	.6	1.7	1
W	.6	2.1	9
WNW	.6	1.9	12
NW	.6	1.3	0
NNW	.5	1.4	0
N	.1	1.5	0

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.6	2.7	12
NE	1.6	2.7	29
ENE	1.0	2.2	7
E	.8	1.9	0
ESE	1.1	2.0	1
SE	.8	2.1	0
SSE	1.0	2.5	0
S	.9	1.9	1
SSW	.8	1.9	0
SW	.7	2.1	4
WSW	1.0	2.1	4
W	.9	1.8	3
WNW	.5	1.5	0
NW	.8	1.6	0
NNW	1.1	2.1	18
N	1.5	2.8	20

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	2.8	3
NE	1.5	2.7	14
ENE	1.5	2.8	15
E	.7	2.1	0
ESE	.6	1.6	0
SE	1.1	2.1	0
SSE	1.0	2.0	0
S	.9	2.3	0
SSW	.9	1.8	0
SW	.8	2.1	2
WSW	.9	1.8	0
W	1.0	2.3	4
WNW	1.2	2.8	62
NW	.7	1.7	0
NNW	.6	1.5	0
N	.1	1.8	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.5	0
NE	.8	1.8	0
ENE	.5	2.0	0
E	.5	2.5	0
ESE	.9	1.8	0
SE	.8	2.0	0
SSE	.8	1.9	0
S	.7	1.7	0
SSW	1.0	2.2	4
SW	.3	1.6	0
WSW	.7	1.6	0
W	.8	2.2	3
WNW	1.0	2.1	32
NW	1.1	2.4	63
NNW	.7	1.9	2
N	.7	1.8	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.3	0
NE	.4	1.3	0
ENE	.1	1.3	64
E	.3	1.1	0
ESE	.4	1.1	0
SE	.1	1.8	0
SSE	.3	1.1	0
S	.1	1.6	11
SSW	.4	1.1	0
SW	.2	1.0	0
WSW	.2	1.1	0
W	.1	1.2	1
WNW	.1	1.1	3
NW	.1	1.5	10
NNW	.3	1.5	1
N	.1	1.5	0

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.1	0
NE	.2	1.4	0
ENE	.3	1.2	0
E	.1	1.3	0
ESE	.3	1.0	0
SE	.1	1.7	89
SSE	.1	1.7	0
S	.1	1.1	0
SSW	.1	1.4	11
SW	.1	1.1	0
WSW	.1	1.1	0
W	.1	1.2	0
WNW	.1	1.7	0
NW	.1	1.1	0
NNW	.1	1.3	0
N	.1	1.1	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.9	3
NE	.8	1.4	2
ENE	.6	1.4	1
E	.1	1.2	0
ESE	.3	1.1	0
SE	.1	1.1	0
SSE	.1	1.3	0
S	.1	1.6	0
SSW	.6	1.4	0
SW	.1	1.3	0
WSW	.4	1.2	0
W	.4	1.4	7
WNW	.8	1.6	74
NW	.6	1.2	9
NNW	.1	1.1	3
N	.4	1.7	1

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.7	0
NE	.5	2.0	0
ENE	.5	2.1	0
E	.4	1.9	0
ESE	.3	1.5	0
SE	.1	1.1	0
SSE	.2	1.4	0
S	.1	2.3	0
SSW	.4	1.9	0
SW	.3	3.0	0
WSW	.1	2.1	0
W	.1	2.4	0
WNW	.1	2.7	0
NW	.8	3.1	20
NNW	2.0	3.6	69
N	2.0	3.3	11

TABLE E-8
EFFECTIVE WIND SPEED RATIOS

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.5	0
NE	1.1	2.1	3
ENE	1.1	2.6	3
E	1.7	3.3	16
ESE	2.1	3.8	61
SE	2.3	4.0	17
SSE	1.9	3.5	2
S	.8	2.3	0
SSW	.6	2.0	0
SW	.9	2.3	1
WSW	1.2	2.2	2
W	.8	1.9	0
WNW	.6	2.2	0
NW	.8	1.7	1
NNW	.8	2.0	0
N	.8	1.6	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	1.9	0
NE	.7	2.4	5
ENE	1.1	2.8	4
E	.5	2.2	0
ESE	.8	2.2	5
SE	.8	2.4	0
SSE	.8	2.7	1
S	.7	2.0	1
SSW	1.1	2.3	27
SW	.6	1.8	4
WSW	.6	1.7	1
W	.6	2.1	2
WNW	.6	1.9	4
NW	.6	1.3	7
NNW	.5	1.4	1
N	.1	1.5	0

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.6	2.7	17
NE	1.6	2.7	34
ENE	1.0	2.2	4
E	.8	1.9	1
ESE	1.1	2.0	1
SE	.8	2.1	0
SSE	1.0	2.5	0
S	.9	1.9	0
SSW	.8	1.9	0
SW	.7	2.1	0
WSW	1.0	2.1	1
W	.9	1.8	1
WNW	.5	1.5	0
NW	.8	1.6	4
NNW	1.1	2.1	19
N	1.5	2.8	21

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	2.8	3
NE	1.5	2.7	26
ENE	1.5	2.8	22
E	.7	2.1	0
ESE	.6	1.6	0
SE	1.1	2.1	0
SSE	1.0	2.0	0
S	.9	2.3	0
SSW	.9	1.8	0
SW	.8	2.1	1
WSW	.9	1.8	1
W	1.0	2.3	6
WNW	1.2	2.8	40
NW	.7	1.7	0
NNW	.6	1.5	0
N	.1	1.8	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.5	0
NE	.8	1.8	2
ENE	.5	2.0	0
E	.5	2.5	0
ESE	.9	1.8	0
SE	.8	2.0	0
SSE	.8	1.9	0
S	.7	1.7	0
SSW	1.0	2.2	1
SW	.3	1.6	0
WSW	.7	1.6	0
W	.8	2.2	1
WNW	1.0	2.1	29
NW	1.1	2.4	66
NNW	.7	1.9	1
N	.7	1.8	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.3	0
NE	.4	1.3	1
ENE	.1	1.3	0
E	.3	1.1	0
ESE	.4	1.1	1
SE	.1	1.8	0
SSE	.3	1.1	0
S	.1	1.8	0
SSW	.4	1.1	0
SW	.2	1.0	0
WSW	.2	1.1	0
W	.1	1.2	0
WNW	.1	1.1	0
NW	.1	1.6	0
NNW	.3	1.2	0
N	.1	1.2	0

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.1	0
NE	.2	1.4	0
ENE	.3	1.2	0
E	.1	1.3	0
ESE	.3	1.0	0
SE	.1	1.7	0
SSE	.1	1.7	0
S	.1	1.1	0
SSW	.1	1.4	0
SW	.1	1.1	0
WSW	.1	1.1	0
W	.1	1.2	0
WNW	.1	1.7	0
NW	.1	1.1	0
NNW	.1	1.3	0
N	.1	1.1	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.9	2
NE	.8	1.4	15
ENE	.6	1.4	2
E	.1	1.2	0
ESE	.3	1.1	0
SE	.1	1.1	0
SSE	.1	1.3	0
S	.1	1.6	0
SSW	.6	1.4	0
SW	.1	1.3	0
WSW	.4	1.2	0
W	.4	1.4	0
WNW	.8	1.6	72
NW	.6	1.2	12
NNW	.1	1.1	0
N	.4	1.7	0

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.7	0
NE	.5	2.0	0
ENE	.5	2.1	0
E	.4	1.9	0
ESE	.3	1.5	0
SE	.1	1.1	0
SSE	.2	1.4	0
S	.1	2.3	0
SSW	.4	1.9	0
SW	.3	3.0	0
WSW	.1	2.1	0
W	.1	2.4	0
WNW	.1	2.7	0
NW	.8	3.1	0
NNW	2.0	3.6	80
N	2.0	3.3	20

TABLE E-7
MEAN WIND SPEED RATIOS

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.6	2.4	1
NE	1.9	2.7	15
ENE	1.5	2.5	7
E	1.2	2.2	0
ESE	.8	1.5	0
SE	.6	1.4	0
SSE	.7	2.3	0
S	1.5	3.4	13
SSW	1.8	3.4	13
SW	1.2	2.5	11
WSW	.8	1.9	0
W	1.2	2.3	3
WNW	1.0	2.5	11
NW	1.3	2.4	21
NNW	.9	2.0	2
N	1.4	2.6	3

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.3	0
NE	1.4	2.4	5
ENE	1.2	2.2	2
E	.6	1.6	0
ESE	.8	1.6	0
SE	.6	1.5	0
SSE	.7	1.8	0
S	1.3	2.9	5
SSW	1.5	2.8	4
SW	.9	1.8	0
WSW	.5	1.5	0
W	1.5	2.5	18
WNW	1.0	2.2	5
NW	1.5	2.6	41
NNW	1.4	2.4	18
N	1.1	2.2	0

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.6	0
NE	.5	1.5	0
ENE	.6	1.8	0
E	1.4	2.9	8
ESE	1.7	2.9	17
SE	.9	2.2	0
SSE	.6	1.6	0
S	.6	1.8	0
SSW	1.0	2.3	0
SW	1.3	2.5	29
WSW	.9	2.3	1
W	.6	2.0	1
WNW	.9	2.1	7
NW	1.0	2.3	18
NNW	1.3	2.3	18
N	1.0	1.8	0

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.4	0
NE	.4	1.6	0
ENE	.8	2.4	3
E	1.3	2.9	8
ESE	1.4	2.8	8
SE	1.0	2.4	0
SSE	.7	2.0	0
S	.7	2.1	0
SSW	.7	2.1	0
SW	1.3	2.8	31
WSW	1.1	2.6	6
W	1.0	2.3	8
WNW	.8	2.5	26
NW	.7	1.9	2
NNW	1.0	2.4	9
N	.7	1.5	0

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.0	0
NE	.9	2.5	1
ENE	1.3	3.0	6
E	1.2	2.9	2
ESE	1.2	2.5	0
SE	1.1	2.5	0
SSE	.9	2.2	0
S	1.1	2.4	0
SSW	.8	2.1	0
SW	.9	2.1	1
WSW	.8	2.2	0
W	1.3	2.8	6
WNW	1.5	3.0	55
NW	1.2	2.7	22
NNW	.9	2.4	3
N	.9	2.5	1

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.1	0
NE	.6	2.0	0
ENE	.8	2.5	1
E	.7	2.0	0
ESE	1.5	2.5	0
SE	1.3	2.2	0
SSE	1.1	2.0	0
S	1.3	2.4	0
SSW	1.0	2.5	0
SW	.5	1.4	0
WSW	.7	1.8	0
W	.7	2.2	0
WNW	1.1	2.9	8
NW	1.5	3.4	40
NNW	1.7	3.4	43
N	1.3	2.8	1

LOCATION 43

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	.8	2.2	0
ENE	1.1	3.2	5
E	.7	2.2	0
ESE	.8	1.7	0
SE	.4	1.6	0
SSE	.5	1.9	0
S	.7	1.6	0
SSW	.4	1.7	0
SW	1.1	2.8	6
WSW	.7	2.1	0
W	1.3	3.1	16
WNW	1.4	3.1	44
NW	1.0	3.1	27
NNW	.9	2.3	2
N	.7	2.2	0

LOCATION 44

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.7	1
NE	1.0	2.2	2
ENE	.5	2.3	0
E	.5	1.6	0
ESE	.7	1.7	0
SE	.5	1.5	0
SSE	.5	1.6	0
S	.7	1.5	0
SSW	.5	2.2	0
SW	1.2	2.9	27
WSW	.9	2.4	1
W	.9	2.4	4
WNW	.5	2.1	1
NW	.9	2.5	17
NNW	1.4	2.9	46
N	1.1	2.4	2

LOCATION 45

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.4	0
NE	.7	2.1	0
ENE	.8	2.5	0
E	.9	2.2	0
ESE	1.0	1.8	0
SE	.5	1.5	0
SSE	.6	2.1	0
S	.7	1.7	0
SSW	.8	2.5	0
SW	1.4	3.2	15
WSW	1.3	3.2	3
W	1.1	2.7	1
WNW	1.6	3.6	52
NW	1.3	3.2	22
NNW	1.0	2.8	5
N	1.1	2.7	0

TABLE E-10
EFFECTIVE WIND SPEED RATIOS

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.6	2.4	3
NE	1.9	2.7	30
ENE	1.5	2.5	10
E	1.2	2.2	0
ESE	.8	1.5	0
SE	.6	1.4	0
SSE	.7	2.3	0
S	1.5	3.4	6
SSW	1.8	3.4	11
SW	1.2	2.5	7
WSW	.8	1.9	0
W	1.2	2.3	3
WNW	1.0	2.5	3
NW	1.3	2.4	22
NNW	.9	2.0	0
N	1.4	2.6	3

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.3	0
NE	1.4	2.4	6
ENE	1.2	2.2	2
E	.6	1.6	0
ESE	.8	1.6	0
SE	.6	1.5	0
SSE	.7	1.8	0
S	1.3	2.9	1
SSW	1.5	2.8	3
SW	.9	1.8	0
WSW	.5	1.5	0
W	1.5	2.5	24
WNW	1.0	2.2	1
NW	1.5	2.6	44
NNW	1.4	2.4	18
N	1.1	2.2	0

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.6	0
NE	.5	1.5	0
ENE	.6	1.8	0
E	1.4	2.9	6
ESE	1.7	2.9	26
SE	.9	2.2	0
SSE	.6	1.6	0
S	.6	1.8	0
SSW	1.0	2.3	0
SW	1.3	2.5	29
WSW	.9	2.3	0
W	.6	2.0	0
WNW	.9	2.1	1
NW	1.0	2.3	10
NNW	1.3	2.3	27
N	1.0	1.8	0

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.4	0
NE	.4	1.6	0
ENE	.8	2.4	1
E	1.3	2.9	8
ESE	1.4	2.8	15
SE	1.0	2.4	0
SSE	.7	2.0	0
S	.7	2.1	0
SSW	.7	2.1	0
SW	1.3	2.8	45
WSW	1.1	2.6	7
W	1.0	2.3	9
WNW	.8	2.5	2
NW	.7	1.9	1
NNW	1.0	2.4	12
N	.7	1.5	0

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.0	0
NE	.9	2.5	0
ENE	1.3	3.0	5
E	1.2	2.9	1
ESE	1.2	2.5	1
SE	1.1	2.5	0
SSE	.9	2.2	0
S	1.1	2.4	0
SSW	.8	2.1	0
SW	.9	2.1	0
WSW	.8	2.2	0
W	1.3	2.8	9
WNW	1.5	3.0	68
NW	1.2	2.7	15
NNW	.9	2.4	1
N	.9	2.5	0

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.1	0
NE	.6	2.0	0
ENE	.8	2.5	0
E	.7	2.0	0
ESE	1.5	2.5	3
SE	1.3	2.2	0
SSE	1.1	2.0	0
S	1.3	2.4	1
SSW	1.0	2.5	0
SW	.5	1.4	0
WSW	.7	1.8	0
W	.7	2.2	0
WNW	1.1	2.9	3
NW	1.5	3.4	42
NNW	1.7	3.4	50
N	1.3	2.8	1

LOCATION 43

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	.8	2.2	0
ENE	1.1	3.2	3
E	.7	2.2	0
ESE	.8	1.7	0
SE	.4	1.6	0
SSE	.5	1.9	0
S	.7	1.6	0
SSW	.4	1.7	0
SW	1.1	2.8	8
WSW	.7	2.1	0
W	1.3	3.1	20
WNW	1.4	3.1	60
NW	1.0	3.1	8
NNW	.9	2.3	2
N	.7	2.2	0

LOCATION 44

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.7	1
NE	1.0	2.2	2
ENE	.5	2.3	0
E	.5	1.6	0
ESE	.7	1.7	0
SE	.5	1.5	0
SSE	.5	1.6	0
S	.7	1.5	0
SSW	.5	2.2	0
SW	1.2	2.9	27
WSW	.9	2.4	1
W	.9	2.4	2
WNW	.5	2.1	0
NW	.9	2.5	4
NNW	1.4	2.9	61
N	1.1	2.4	2

LOCATION 45

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.4	0
NE	.7	2.1	0
ENE	.8	2.5	0
E	.9	2.2	0
ESE	1.0	1.8	0
SE	.5	1.5	0
SSE	.6	2.1	0
S	.7	1.7	0
SSW	.8	2.5	0
SW	1.4	3.2	16
WSW	1.3	3.2	2
W	1.1	2.7	1
WNW	1.6	3.6	65
NW	1.3	3.2	14
NNW	1.0	2.8	1
N	1.1	2.7	0

TABLE E-9
MEAN WIND SPEED RATIOS

LOCATION 46

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.9	0
NE	.7	2.0	0
ENE	.8	2.6	1
E	1.0	2.7	1
ESE	1.2	2.1	4
SE	.8	1.8	0
SSE	.7	2.2	0
S	1.0	1.9	0
SSW	.7	1.9	0
SW	1.1	2.5	14
WSW	1.3	3.1	13
W	.8	2.1	0
WNW	1.3	3.0	67
NW	.7	2.5	1
NNW	.7	1.7	0
N	.7	2.3	0

LOCATION 47

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.8	0
NE	.5	1.5	0
ENE	.7	2.0	1
E	1.0	2.4	4
ESE	.9	1.8	3
SE	.5	1.5	0
SSE	.6	2.0	0
S	.8	1.9	1
SSW	.9	2.3	1
SW	1.0	2.4	31
WSW	.8	2.3	1
W	.5	2.2	0
WNW	.5	1.9	0
NW	.6	1.6	1
NNW	1.1	2.1	50
N	1.0	2.1	6

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.3	5
NE	.8	1.9	2
ENE	.7	1.9	1
E	.9	2.7	1
ESE	.8	1.9	0
SE	.9	2.0	0
SSE	.9	2.1	0
S	1.2	2.7	16
SSW	1.2	2.7	9
SW	1.0	2.8	35
WSW	.8	2.1	1
W	.5	1.9	0
WNW	.5	1.4	0
NW	.6	1.5	1
NNW	.7	1.8	2
N	1.4	2.3	26

LOCATION 49

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.0	0
NE	.6	2.1	0
ENE	.7	2.0	1
E	.9	2.3	3
ESE	1.0	2.4	5
SE	.7	2.2	0
SSE	.7	2.0	0
S	.7	2.0	0
SSW	.6	2.1	0
SW	.7	2.3	5
WSW	.8	2.4	5
W	.7	2.0	2
WNW	.5	1.9	0
NW	.9	2.1	49
NNW	.9	2.1	24
N	1.0	2.1	6

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	.9	2.2	3
ENE	1.3	3.0	23
E	.7	1.8	0
ESE	.8	2.4	0
SE	.7	1.9	0
SSE	.5	1.8	0
S	.9	2.2	1
SSW	1.0	1.8	2
SW	1.0	2.0	23
WSW	1.0	2.3	8
W	.8	1.7	3
WNW	.7	1.6	1
NW	.9	2.2	26
NNW	.9	2.1	11
N	.8	1.8	1

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	2.4	0
NE	1.2	2.4	1
ENE	1.0	2.7	0
E	1.5	3.1	2
ESE	2.3	3.7	34
SE	1.9	3.4	1
SSE	1.7	3.5	1
S	1.7	3.2	4
SSW	1.1	2.5	0
SW	1.4	3.0	6
WSW	1.9	3.4	19
W	1.1	2.2	0
WNW	1.0	2.0	0
NW	1.3	2.3	9
NNW	1.6	2.5	16
N	1.8	2.8	6

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.6	3.3	1
NE	1.4	2.8	1
ENE	.9	2.5	0
E	.7	2.3	0
ESE	.9	2.0	0
SE	.6	1.8	0
SSE	.5	1.6	0
S	.6	1.7	0
SSW	.7	2.5	0
SW	2.0	3.6	41
WSW	1.4	3.3	1
W	.9	2.5	0
WNW	1.5	3.2	12
NW	1.5	3.3	11
NNW	1.9	3.6	20
N	1.8	3.4	4

TABLE E-11
MEAN WIND SPEED RATIOS

LOCATION 46

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.9	0
NE	.7	2.0	0
ENE	.8	2.6	2
E	1.0	2.7	1
ESE	1.2	2.1	0
SE	.8	1.8	0
SSE	.7	2.2	0
S	1.0	1.9	0
SSW	.7	1.9	0
SW	1.1	2.5	10
WSW	1.3	3.1	9
W	.8	2.1	0
WNW	1.3	3.0	70
NW	.7	2.5	8
NNW	.7	1.7	0
N	.7	2.3	0

LOCATION 47

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.8	0
NE	.5	1.5	0
ENE	.7	2.0	4
E	1.0	2.4	7
ESE	.9	1.8	0
SE	.5	1.5	0
SSE	.6	2.0	0
S	.8	1.9	0
SSW	.9	2.3	2
SW	1.0	2.4	43
WSW	.8	2.3	6
W	.5	2.2	2
WNW	.5	1.9	4
NW	.6	1.6	3
NNW	1.1	2.1	26
N	1.0	2.1	3

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.3	3
NE	.8	1.9	2
ENE	.7	1.9	2
E	.9	2.7	4
ESE	.8	1.9	0
SE	.9	2.0	0
SSE	.9	2.1	0
S	1.2	2.7	15
SSW	1.2	2.7	7
SW	1.0	2.8	47
WSW	.8	2.1	4
W	.5	1.9	0
WNW	.5	1.4	0
NW	.6	1.5	1
NNW	.7	1.8	4
N	1.4	2.3	10

LOCATION 49

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.0	0
NE	.6	2.1	4
ENE	.7	2.0	3
E	.9	2.3	3
ESE	1.0	2.4	4
SE	.7	2.2	0
SSE	.7	2.0	0
S	.7	2.0	0
SSW	.6	2.1	0
SW	.7	2.3	12
WSW	.8	2.4	6
W	.7	2.0	5
WNW	.5	1.9	4
NW	.9	2.1	33
NNW	.9	2.1	21
N	1.0	2.1	7

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	.9	2.2	4
ENE	1.3	3.0	28
E	.7	1.8	0
ESE	.8	2.4	1
SE	.7	1.9	0
SSE	.5	1.8	0
S	.9	2.2	3
SSW	1.0	1.8	0
SW	1.0	2.0	8
WSW	1.0	2.3	12
W	.8	1.7	2
WNW	.7	1.6	1
NW	.9	2.2	24
NNW	.9	2.1	14
N	.8	1.8	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	2.4	0
NE	1.2	2.4	1
ENE	1.0	2.7	2
E	1.5	3.1	4
ESE	2.3	3.7	27
SE	1.9	3.4	1
SSE	1.7	3.5	1
S	1.7	3.2	5
SSW	1.1	2.5	0
SW	1.4	3.0	13
WSW	1.9	3.4	20
W	1.1	2.2	0
WNW	1.0	2.0	0
NW	1.3	2.3	8
NNW	1.6	2.5	13
N	1.8	2.8	4

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.6	3.3	1
NE	1.4	2.8	1
ENE	.9	2.5	0
E	.7	2.3	0
ESE	.9	2.0	0
SE	.6	1.8	0
SSE	.5	1.6	0
S	.6	1.7	0
SSW	.7	2.5	0
SW	2.0	3.6	33
WSW	1.4	3.3	3
W	.9	2.5	0
WNW	1.5	3.2	17
NW	1.5	3.3	14
NNW	1.9	3.6	27
N	1.8	3.4	3

TABLE E-12
EFFECTIVE WIND SPEED RATIOS

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.1	0
NE	.1	1.1	0
ENE	.5	1.9	0
E	.6	1.7	0
ESE	.9	1.8	0
SE	1.1	2.1	0
SSE	1.4	2.7	0
S	1.8	3.3	13
SSW	1.6	3.0	3
SW	1.2	2.8	4
WSW	2.3	3.7	69
W	.6	2.0	0
WNW	.7	3.0	0
NW	1.3	3.7	11
NNW	.3	1.8	0
N	.1	1.3	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.7	0
NE	.7	1.7	0
ENE	.8	2.0	1
E	.7	2.2	0
ESE	.7	1.7	0
SE	.6	1.7	0
SSE	1.0	2.3	0
S	1.2	2.9	3
SSW	1.6	3.5	20
SW	1.1	2.9	15
WSW	1.3	3.0	14
W	1.2	2.7	32
WNW	.7	2.1	0
NW	.8	2.1	3
NNW	1.0	2.0	10
N	1.1	2.3	2

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.9	0
NE	.7	2.2	0
ENE	1.0	2.2	1
E	1.4	2.5	3
ESE	1.4	2.5	4
SE	1.1	2.2	0
SSE	1.2	2.5	0
S	1.4	2.8	3
SSW	.9	2.3	0
SW	1.3	3.0	15
WSW	1.4	3.3	6
W	1.5	3.0	46
WNW	.9	2.2	1
NW	1.1	2.3	8
NNW	1.2	2.4	13
N	1.2	2.5	1

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	.9	2.3	0
ENE	1.0	2.0	1
E	1.3	2.3	2
ESE	1.5	2.5	9
SE	1.3	2.5	0
SSE	1.1	2.4	0
S	1.1	2.4	0
SSW	1.0	2.7	0
SW	1.1	3.0	7
WSW	1.7	3.5	27
W	1.4	2.9	22
WNW	1.2	2.7	26
NW	1.0	2.4	5
NNW	.9	2.4	1
N	.7	1.7	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.5	0
NE	.6	1.7	0
ENE	.8	1.7	0
E	.9	2.4	0
ESE	1.1	2.6	1
SE	.9	2.2	0
SSE	.5	2.0	0
S	.6	1.9	0
SSW	1.0	2.6	0
SW	1.4	3.0	32
WSW	1.3	2.9	8
W	1.4	3.1	43
WNW	1.0	2.4	3
NW	1.1	2.3	13
NNW	.6	1.5	0
N	.7	1.5	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	1.9	0
NE	1.0	2.1	1
ENE	1.1	2.4	2
E	1.3	2.8	2
ESE	1.5	2.9	9
SE	1.6	2.8	1
SSE	1.3	3.0	0
S	1.5	3.1	7
SSW	1.4	2.9	2
SW	1.1	2.6	5
WSW	1.6	3.6	21
W	1.2	3.2	6
WNW	1.3	2.8	34
NW	1.0	2.2	6
NNW	1.1	2.2	5
N	.9	2.4	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.4	0
NE	1.0	2.7	0
ENE	.9	2.6	0
E	1.1	2.4	0
ESE	1.5	2.8	3
SE	1.4	2.8	0
SSE	1.3	3.1	0
S	1.6	3.1	9
SSW	1.7	3.2	6
SW	1.4	3.1	20
WSW	1.4	3.3	4
W	1.3	3.2	6
WNW	1.3	2.6	19
NW	1.2	2.6	12
NNW	1.4	2.9	19
N	.8	2.8	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.6	0
NE	.3	1.7	0
ENE	.4	1.7	0
E	.2	1.5	0
ESE	.6	2.1	0
SE	.9	2.3	0
SSE	.1	1.2	0
S	.4	2.2	0
SSW	.8	2.5	0
SW	.8	2.9	3
WSW	1.2	3.0	25
W	.7	1.9	1
WNW	1.0	2.5	40
NW	1.0	2.6	31
NNW	.6	2.0	0
N	.5	1.6	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	1.0	2.1	0
ENE	.6	2.3	0
E	1.1	2.5	0
ESE	1.3	2.6	1
SE	1.7	3.1	2
SSE	1.0	3.0	0
S	.8	2.4	0
SSW	1.2	2.6	0
SW	1.3	3.0	15
WSW	1.4	3.0	7
W	1.3	2.6	11
WNW	1.3	2.7	37
NW	1.2	2.5	23
NNW	1.1	2.5	4
N	.8	2.1	0

TABLE E-13
MEAN WIND SPEED RATIOS

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.1	0
NE	.1	1.1	0
ENE	.5	1.9	0
E	.6	1.7	0
ESE	.9	1.8	0
SE	1.1	2.1	0
SSE	1.4	2.7	0
S	1.8	3.3	7
SSW	1.6	3.0	2
SW	1.2	2.8	8
WSW	2.3	3.7	32
W	.6	2.0	0
WNW	.7	3.0	3
NW	1.3	3.7	48
NNW	.3	1.8	0
N	.1	1.3	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.7	0
NE	.7	1.7	0
ENE	.8	2.0	0
E	.7	2.2	0
ESE	.7	1.7	0
SE	.6	1.7	0
SSE	1.0	2.3	0
S	1.2	2.9	7
SSW	1.6	3.5	16
SW	1.1	2.9	24
WSW	1.3	3.0	13
W	1.2	2.7	27
WNW	.7	2.1	2
NW	.8	2.1	6
NNW	1.0	2.0	4
N	1.1	2.3	0

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.9	0
NE	.7	2.2	0
ENE	1.0	2.2	1
E	1.4	2.5	1
ESE	1.4	2.5	1
SE	1.1	2.2	0
SSE	1.2	2.5	0
S	1.4	2.8	2
SSW	.9	2.3	0
SW	1.3	3.0	28
WSW	1.4	3.3	14
W	1.5	3.0	36
WNW	.9	2.2	2
NW	1.1	2.3	7
NNW	1.2	2.4	7
N	1.2	2.5	1

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	.9	2.3	0
ENE	1.0	2.0	1
E	1.3	2.3	1
ESE	1.5	2.5	1
SE	1.3	2.5	0
SSE	1.1	2.4	0
S	1.1	2.4	0
SSW	1.0	2.7	0
SW	1.1	3.0	14
WSW	1.7	3.5	23
W	1.4	2.9	30
WNW	1.2	2.7	24
NW	1.0	2.4	5
NNW	.9	2.4	2
N	.7	1.7	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.5	0
NE	.6	1.7	0
ENE	.8	1.7	0
E	.9	2.4	0
ESE	1.1	2.6	1
SE	.9	2.2	0
SSE	.5	2.0	0
S	.6	1.9	0
SSW	1.0	2.6	0
SW	1.4	3.0	30
WSW	1.3	2.9	8
W	1.4	3.1	46
WNW	1.0	2.4	7
NW	1.1	2.3	8
NNW	.6	1.5	0
N	.7	1.5	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	1.9	0
NE	1.0	2.1	1
ENE	1.1	2.4	2
E	1.3	2.8	1
ESE	1.5	2.9	4
SE	1.6	2.8	0
SSE	1.3	3.0	0
S	1.5	3.1	6
SSW	1.4	2.9	2
SW	1.1	2.6	8
WSW	1.6	3.6	25
W	1.2	3.2	20
WNW	1.3	2.8	23
NW	1.0	2.2	4
NNW	1.1	2.2	4
N	.9	2.4	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.4	0
NE	1.0	2.7	2
ENE	.9	2.6	1
E	1.1	2.4	0
ESE	1.5	2.8	1
SE	1.4	2.8	0
SSE	1.3	3.1	0
S	1.6	3.1	5
SSW	1.7	3.2	4
SW	1.4	3.1	25
WSW	1.4	3.3	9
W	1.3	3.2	16
WNW	1.3	2.6	11
NW	1.2	2.6	9
NNW	1.4	2.9	16
N	.8	2.8	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.6	0
NE	.3	1.7	0
ENE	.4	1.7	0
E	.2	1.5	0
ESE	.6	2.1	0
SE	.9	2.3	0
SSE	.1	1.2	0
S	.4	2.2	0
SSW	.8	2.5	0
SW	.8	2.9	12
WSW	1.2	3.0	20
W	.7	1.9	1
WNW	1.0	2.5	33
NW	1.0	2.6	33
NNW	.6	2.0	1
N	.5	1.6	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	1.0	2.1	0
ENE	.6	2.3	0
E	1.1	2.5	0
ESE	1.3	2.6	1
SE	1.7	3.1	1
SSE	1.0	3.0	0
S	.8	2.4	0
SSW	1.2	2.6	0
SW	1.3	3.0	21
WSW	1.4	3.0	8
W	1.3	2.6	13
WNW	1.3	2.7	33
NW	1.2	2.5	15
NNW	1.1	2.5	6
N	.8	2.1	0

TABLE E-14
EFFECTIVE WIND SPEED RATIOS

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.4	0
NE	1.3	2.9	2
ENE	1.3	3.1	3
E	1.5	2.8	5
ESE	1.8	3.0	10
SE	1.5	2.7	0
SSE	1.5	3.1	0
S	1.7	3.3	4
SSW	1.4	2.9	1
SW	1.2	2.8	4
WSW	1.6	3.8	10
W	1.5	3.6	17
WNW	1.3	2.8	16
NW	1.2	2.5	6
NNW	1.5	3.2	21
N	1.0	2.2	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.3	0
NE	.8	2.1	0
ENE	1.0	2.4	1
E	.9	2.5	0
ESE	.6	1.6	0
SE	.6	1.5	0
SSE	.6	1.8	0
S	.6	1.9	0
SSW	.8	1.7	0
SW	.1	1.7	0
WSW	.7	1.7	0
W	1.4	2.3	21
WNW	1.3	2.6	32
NW	1.5	2.3	47
NNW	.8	1.9	0
N	.8	1.9	0

LOCATION 64

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.4	0
NE	.6	1.4	0
ENE	.5	1.4	0
E	1.0	2.3	3
ESE	1.3	2.3	28
SE	.8	1.8	0
SSE	.4	1.5	0
S	.6	1.6	0
SSW	.5	1.5	0
SW	.7	1.7	3
WSW	1.2	2.4	26
W	.9	2.2	9
WNW	.8	2.1	18
NW	.6	2.1	1
NNW	.8	2.1	11
N	.8	1.5	1

LOCATION 65

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	2.1	3
NE	1.2	2.0	9
ENE	.7	1.5	0
E	.4	1.4	0
ESE	.8	1.7	0
SE	.5	1.4	0
SSE	.1	1.2	0
S	.3	1.4	0
SSW	.8	1.7	0
SW	.6	1.5	0
WSW	.9	2.0	1
W	1.5	2.4	81
WNW	.7	1.8	0
NW	.7	2.1	0
NNW	1.0	1.8	7
N	1.0	1.9	1

LOCATION 66

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	2.2	1
NE	.6	1.6	0
ENE	.4	1.3	0
E	.8	1.9	0
ESE	1.5	2.5	8
SE	1.3	2.2	0
SSE	.7	1.8	0
S	.4	1.6	0
SSW	.9	1.9	0
SW	1.2	2.2	8
WSW	.8	1.9	0
W	1.4	2.5	27
WNW	1.0	1.9	4
NW	1.0	2.1	6
NNW	1.5	2.3	40
N	1.4	2.2	5

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.5	2.4	2
NE	.9	1.9	0
ENE	.6	1.6	0
E	.7	1.6	0
ESE	1.3	2.2	0
SE	1.1	2.1	0
SSE	1.0	2.0	0
S	.7	1.9	0
SSW	1.3	2.2	0
SW	1.2	2.0	5
WSW	.7	1.8	0
W	1.5	2.5	22
WNW	.9	2.0	0
NW	1.3	2.4	16
NNW	1.7	2.7	46
N	1.6	2.4	8

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	1.7	0
NE	.3	1.3	0
ENE	.5	1.4	0
E	1.1	2.3	2
ESE	1.5	2.7	21
SE	1.2	2.2	0
SSE	.8	1.9	0
S	.1	1.6	0
SSW	.6	1.9	0
SW	1.2	2.3	27
WSW	.6	1.7	0
W	.9	2.2	3
WNW	.7	1.7	0
NW	.8	1.9	3
NNW	1.3	2.1	40
N	1.1	1.8	2

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.5	0
NE	.6	1.4	0
ENE	.6	1.5	0
E	1.0	2.2	2
ESE	1.4	2.7	27
SE	1.1	2.3	0
SSE	.7	1.9	0
S	.6	1.8	0
SSW	.9	2.1	0
SW	1.1	2.5	38
WSW	.8	1.9	0
W	1.0	2.0	15
WNW	.6	1.5	0
NW	.5	1.6	0
NNW	1.0	1.7	16
N	.7	1.6	0

LOCATION 70

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.0	0
NE	1.0	1.9	1
ENE	.8	1.8	0
E	.7	1.8	0
ESE	1.2	2.1	1
SE	1.1	2.0	0
SSE	.8	1.8	0
S	.6	1.8	0
SSW	1.2	2.3	1
SW	1.1	2.1	0
WSW	.6	1.5	0
W	1.2	2.2	15
WNW	.6	1.6	0
NW	1.1	2.1	11
NNW	1.5	2.4	52
N	1.3	2.1	4

TABLE E-15
MEAN WIND SPEED RATIOS

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.4	0
NE	1.3	2.9	2
ENE	1.3	3.1	4
E	1.5	2.8	1
ESE	1.8	3.0	2
SE	1.5	2.7	0
SSE	1.5	3.1	0
S	1.7	3.3	4
SSW	1.4	2.9	0
SW	1.2	2.8	5
WSW	1.6	3.8	16
W	1.5	3.6	35
WNW	1.3	2.8	11
NW	1.2	2.5	5
NNW	1.5	3.2	13
N	1.0	2.2	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.3	0
NE	.8	2.1	0
ENE	1.0	2.4	1
E	.9	2.5	0
ESE	.6	1.6	0
SE	.6	1.5	0
SSE	.6	1.8	0
S	.6	1.9	0
SSW	.8	1.7	0
SW	.1	1.7	0
WSW	.7	1.7	0
W	1.4	2.3	19
WNW	1.3	2.6	30
NW	1.5	2.3	44
NNW	.8	1.9	3
N	.8	1.9	0

LOCATION 64

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.4	0
NE	.6	1.4	0
ENE	.5	1.4	0
E	1.0	2.3	4
ESE	1.3	2.3	45
SE	.8	1.8	0
SSE	.4	1.5	0
S	.6	1.6	0
SSW	.5	1.5	0
SW	.7	1.7	3
WSW	1.2	2.4	16
W	.9	2.2	12
WNW	.8	2.1	23
NW	.6	2.1	14
NNW	.8	2.1	13
N	.8	1.5	0

LOCATION 65

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	2.1	1
NE	1.2	2.0	6
ENE	.7	1.5	0
E	.4	1.4	0
ESE	.8	1.7	0
SE	.5	1.4	0
SSE	.1	1.2	0
S	.3	1.4	0
SSW	.8	1.7	0
SW	.6	1.5	0
WSW	.9	2.0	2
W	1.5	2.4	68
WNW	.7	1.8	5
NW	.7	2.1	9
NNW	1.0	1.8	7
N	1.0	1.9	1

LOCATION 66

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	2.2	1
NE	.6	1.6	0
ENE	.4	1.3	0
E	.8	1.9	0
ESE	1.5	2.5	4
SE	1.3	2.2	0
SSE	.7	1.8	0
S	.4	1.6	0
SSW	.9	1.9	0
SW	1.2	2.2	12
WSW	.8	1.9	0
W	1.4	2.5	37
WNW	1.0	1.9	5
NW	1.0	2.1	14
NNW	1.5	2.3	25
N	1.4	2.2	2

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.5	2.4	2
NE	.9	1.9	0
ENE	.6	1.6	0
E	.7	1.6	0
ESE	1.3	2.2	1
SE	1.1	2.1	0
SSE	1.0	2.0	0
S	.7	1.9	0
SSW	1.3	2.2	1
SW	1.2	2.0	5
WSW	.7	1.8	0
W	1.5	2.5	26
WNW	.9	2.0	2
NW	1.3	2.4	25
NNW	1.7	2.7	35
N	1.6	2.4	4

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	1.7	0
NE	.3	1.3	0
ENE	.5	1.4	0
E	1.1	2.3	4
ESE	1.5	2.7	18
SE	1.2	2.2	0
SSE	.8	1.9	0
S	.1	1.6	0
SSW	.6	1.9	0
SW	1.2	2.3	27
WSW	.6	1.7	0
W	.9	2.2	14
WNW	.7	1.7	2
NW	.8	1.9	12
NNW	1.3	2.1	27
N	1.1	1.8	1

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.5	0
NE	.6	1.4	0
ENE	.6	1.5	0
E	1.0	2.2	3
ESE	1.4	2.7	26
SE	1.1	2.3	0
SSE	.7	1.9	0
S	.6	1.8	0
SSW	.9	2.1	1
SW	1.1	2.5	42
WSW	.8	1.9	1
W	1.0	2.0	17
WNW	.6	1.5	0
NW	.5	1.6	1
NNW	1.0	1.7	6
N	.7	1.6	0

LOCATION 70

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.0	0
NE	1.0	1.9	1
ENE	.8	1.8	1
E	.7	1.7	0
ESE	1.2	2.1	1
SE	1.1	2.0	0
SSE	.8	1.8	0
S	.6	1.8	0
SSW	1.2	2.3	2
SW	1.1	2.1	11
WSW	.6	1.5	0
W	1.2	2.2	21
WNW	.6	1.6	0
NW	1.1	2.1	21
NNW	1.5	2.4	40
N	1.3	2.1	2

TABLE E-16
EFFECTIVE WIND SPEED RATIOS

LOCATION 71			
WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	1.9	1
NE	1.1	1.9	6
ENE	.9	1.6	1
E	.6	1.8	0
ESE	1.1	2.3	4
SE	1.0	2.0	0
SSE	.8	1.9	0
S	.8	2.2	0
SSW	1.3	2.8	6
SW	1.1	2.4	25
WSW	.6	1.6	0
W	1.0	1.8	7
WNW	.3	1.3	0
NW	.7	1.7	1
NNW	1.3	2.0	45
N	1.1	1.8	4

LOCATION 0			
WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0			
WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-17
MEAN WIND SPEED RATIOS

LOCATION 71			
WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	1.9	1
NE	1.1	1.9	4
ENE	.9	1.6	1
E	.6	1.8	0
ESE	1.1	2.3	5
SE	1.0	2.0	0
SSE	.8	1.9	0
S	.8	2.2	2
SSW	1.3	2.8	11
SW	1.1	2.4	37
WSW	.6	1.6	0
W	1.0	1.8	6
WNW	.3	1.3	0
NW	.7	1.7	6
NNW	1.3	2.0	26
N	1.1	1.8	1

LOCATION 0			
WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0			
WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-18
EFFECTIVE WIND SPEED RATIOS

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	1.9	0	0
NE	.9	2.0	0	0
ENE	1.1	2.5	0	0
E	1.6	3.1	3	1
ESE	2.0	3.3	9	6
SE	1.4	2.7	0	0
SSE	1.1	2.5	0	0
S	.9	2.6	0	0
SSW	1.0	2.3	0	0
SW	1.4	2.9	2	3
WSW	2.6	4.1	57	69
W	1.7	3.3	18	11
WNW	1.3	2.8	4	2
NW	1.4	2.5	7	8
NNW	.6	1.6	0	0
N	.8	1.9	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.2	0	0
NE	1.0	2.4	7	5
ENE	1.1	2.5	6	4
E	1.0	2.1	2	1
ESE	1.4	2.5	25	21
SE	1.0	2.1	0	0
SSE	.7	1.9	0	0
S	.2	2.0	0	0
SSW	1.0	2.8	0	0
SW	.9	2.8	3	7
WSW	1.1	2.9	7	10
W	1.2	3.0	40	35
WNW	.9	3.0	9	9
NW	.8	2.5	2	4
NNW	.6	2.0	0	0
N	.7	1.9	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.2	0	0
NE	.6	1.9	0	0
ENE	.4	1.7	0	0
E	.6	1.7	0	0
ESE	.7	1.8	0	0
SE	.8	1.8	0	0
SSE	.4	1.9	0	0
S	.6	2.1	0	0
SSW	.7	2.1	0	0
SW	1.0	2.4	0	0
WSW	2.5	3.9	66	78
W	1.6	2.9	15	8
WNW	1.4	2.8	11	7
NW	1.3	2.5	7	7
NNW	.7	2.1	0	0
N	.4	1.7	0	0

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.8	0	0
NE	.7	2.0	4	3
ENE	.7	2.0	3	2
E	.8	1.9	2	1
ESE	.9	2.0	5	4
SE	.7	1.8	0	0
SSE	.5	1.6	0	0
S	.8	2.3	2	2
SSW	.9	2.4	4	4
SW	.7	1.8	6	10
WSW	1.1	2.2	31	40
W	.7	1.6	3	2
WNW	.8	1.7	34	26
NW	.6	1.6	5	7
NNW	.4	1.8	0	0
N	.5	1.7	0	0

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.1	0	0
NE	.6	1.7	0	0
ENE	.5	1.5	0	0
E	.8	1.8	0	0
ESE	1.0	2.2	0	0
SE	.8	1.9	0	0
SSE	.4	1.8	0	0
S	.6	1.8	0	0
SSW	.5	1.7	0	0
SW	.9	2.1	0	1
WSW	1.9	3.7	54	66
W	1.2	2.5	10	6
WNW	1.2	2.7	29	19
NW	1.1	2.2	6	7
NNW	.9	2.2	0	1
N	.6	1.9	0	0

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	1.3	0	0
NE	.5	1.3	1	1
ENE	.4	1.4	0	0
E	.8	1.9	7	5
ESE	.9	2.5	29	24
SE	.6	1.9	0	0
SSE	.3	2.2	0	0
S	.5	1.8	0	0
SSW	.5	1.7	0	0
SW	.6	1.5	5	10
WSW	.7	1.5	5	7
W	.6	1.5	3	3
WNW	.6	1.6	18	17
NW	.7	1.5	32	33
NNW	.4	1.3	0	0
N	.3	1.3	0	0

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.8	1	1
NE	.5	1.5	0	0
ENE	.3	1.6	0	0
E	.9	2.5	6	3
ESE	.8	2.0	1	1
SE	.7	1.9	0	0
SSE	.1	1.8	0	0
S	.6	2.0	0	0
SSW	.8	2.0	1	1
SW	.7	1.7	3	5
WSW	1.2	2.4	49	60
W	.8	1.8	20	13
WNW	.6	2.1	4	3
NW	.7	1.6	10	10
NNW	.7	1.6	2	4
N	.6	1.4	0	0

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.3	1	0
NE	.1	1.5	0	0
ENE	.1	1.4	0	0
E	.6	1.6	1	0
ESE	1.0	2.4	28	22
SE	.7	2.0	0	0
SSE	.5	2.0	0	0
S	.5	1.8	0	0
SSW	1.0	2.0	18	13
SW	.5	1.4	0	0
WSW	1.0	2.3	31	42
W	.8	2.1	19	15
WNW	.5	1.9	0	0
NW	.6	1.8	3	5
NNW	.6	2.0	1	3
N	.6	1.6	0	0

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.1	1	1
NE	.5	1.6	2	1
ENE	.6	1.7	4	4
E	.4	1.6	0	0
ESE	.9	2.3	34	27
SE	.1	1.7	0	0
SSE	.4	1.4	0	0
S	.2	1.5	0	0
SSW	.7	1.6	1	2
SW	.6	1.5	8	14
WSW	.6	1.5	1	2
W	.1	1.4	0	0
WNW	.6	1.6	14	13
NW	.7	1.5	36	34
NNW	.4	1.5	0	1
N	.6	1.8	0	1

TABLE E-19
MEAN WIND SPEED RATIOS

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	1.9	0	0
NE	.9	2.0	0	0
ENE	1.1	2.5	0	0
E	1.6	3.1	3	1
ESE	2.0	3.3	4	4
SE	1.4	2.7	0	0
SSE	1.1	2.5	0	0
S	.9	2.6	0	0
SSW	1.0	2.3	0	0
SW	1.4	2.9	5	8
WSW	2.6	4.1	40	50
W	1.7	3.3	30	21
WNW	1.3	2.8	9	7
NW	1.4	2.5	8	9
NNW	.6	1.6	0	0
N	.8	1.9	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.2	0	0
NE	1.0	2.4	4	3
ENE	1.1	2.5	4	4
E	1.0	2.1	0	0
ESE	1.4	2.5	1	2
SE	1.0	2.1	0	0
SSE	.7	1.9	0	0
S	.2	2.0	0	0
SSW	1.0	2.8	0	1
SW	.9	2.8	9	14
WSW	1.1	2.9	6	7
W	1.2	3.0	41	34
WNW	.9	3.0	28	25
NW	.8	2.5	6	9
NNW	.6	2.0	0	1
N	.7	1.9	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.2	0	0
NE	.6	1.9	0	0
ENE	.4	1.7	0	0
E	.6	1.7	0	0
ESE	.7	1.8	0	0
SE	.8	1.8	0	0
SSE	.4	1.9	0	0
S	.6	2.1	0	0
SSW	.7	2.1	0	0
SW	1.0	2.4	0	1
WSW	2.5	3.9	46	58
W	1.6	2.9	21	14
WNW	1.4	2.8	24	17
NW	1.3	2.5	9	10
NNW	.7	2.1	0	0
N	.4	1.7	0	0

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.8	0	0
NE	.7	2.0	10	6
ENE	.7	2.0	7	6
E	.8	1.9	3	2
ESE	.9	2.0	6	5
SE	.7	1.8	0	0
SSE	.5	1.6	0	0
S	.8	2.3	12	10
SSW	.9	2.4	10	8
SW	.7	1.8	8	12
WSW	1.1	2.2	20	25
W	.7	1.6	2	1
WNW	.8	1.7	16	13
NW	.6	1.6	4	7
NNW	.4	1.8	2	5
N	.5	1.7	0	0

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.1	0	0
NE	.6	1.7	0	0
ENE	.5	1.5	0	0
E	.8	1.8	0	0
ESE	1.0	2.2	0	0
SE	.8	1.9	0	0
SSE	.4	1.8	0	0
S	.6	1.8	0	0
SSW	.5	1.7	0	0
SW	.9	2.1	1	2
WSW	1.9	3.7	46	56
W	1.2	2.5	11	7
WNW	1.2	2.7	34	24
NW	1.1	2.2	7	8
NNW	.9	2.2	1	2
N	.6	1.9	0	0

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	1.3	0	0
NE	.5	1.3	0	0
ENE	.4	1.4	0	0
E	.8	1.9	7	4
ESE	.9	2.5	49	40
SE	.6	1.9	0	1
SSE	.3	2.2	0	0
S	.5	1.8	1	1
SSW	.5	1.7	0	0
SW	.6	1.5	4	9
WSW	.7	1.5	2	3
W	.6	1.5	3	3
WNW	.6	1.6	21	21
NW	.7	1.5	13	17
NNW	.4	1.3	0	0
N	.3	1.3	0	0

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.8	1	1
NE	.5	1.5	0	0
ENE	.3	1.6	0	0
E	.9	2.5	18	11
ESE	.8	2.0	6	5
SE	.7	1.9	0	0
SSE	.1	1.8	0	0
S	.6	2.0	2	2
SSW	.8	2.0	1	2
SW	.7	1.7	3	6
WSW	1.2	2.4	24	31
W	.8	1.8	11	9
WNW	.6	2.1	26	21
NW	.7	1.6	6	8
NNW	.7	1.6	1	3
N	.6	1.4	0	0

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.3	5	3
NE	.1	1.5	0	0
ENE	.1	1.4	0	0
E	.6	1.6	0	0
ESE	1.0	2.4	17	14
SE	.7	2.0	0	0
SSE	.5	2.0	0	0
S	.5	1.8	0	0
SSW	1.0	2.0	4	4
SW	.5	1.4	0	0
WSW	1.0	2.3	18	23
W	.8	2.1	28	22
WNW	.5	1.9	12	11
NW	.6	1.8	8	11
NNW	.6	2.0	8	12
N	.6	1.6	0	0

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.1	10	7
NE	.5	1.6	12	9
ENE	.6	1.7	7	6
E	.4	1.6	1	1
ESE	.9	2.3	42	34
SE	.1	1.7	0	0
SSE	.4	1.4	0	0
S	.2	1.5	0	0
SSW	.7	1.6	0	1
SW	.6	1.5	5	11
WSW	.6	1.5	2	2
W	.1	1.4	0	0
WNW	.6	1.6	14	14
NW	.7	1.5	5	8
NNW	.4	1.5	2	5
N	.6	1.8	0	3

TABLE E-20
EFFECTIVE WIND SPEED RATIOS

LOCATION 10

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.3	6	4
NE	.8	1.7	16	11
ENE	.6	1.6	1	1
E	.1	1.5	0	0
ESE	.4	1.4	0	0
SE	.3	1.6	0	0
SSE	.4	1.5	0	0
S	.5	1.6	0	0
SSW	.7	1.8	0	0
SW	.5	1.3	0	2
WSW	.5	1.8	0	0
W	.7	1.9	11	10
WNW	.7	1.8	27	26
NW	.8	1.8	32	33
NNW	.7	1.8	7	12
N	.6	1.9	0	0

LOCATION 11

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.1	3	2
NE	.8	2.3	16	11
ENE	.9	2.0	13	11
E	.6	2.0	0	0
ESE	1.0	2.3	19	16
SE	.8	2.2	0	0
SSE	.8	2.3	0	0
S	1.0	2.4	20	18
SSW	.9	2.4	8	8
SW	.6	1.4	3	7
WSW	.6	1.8	0	0
W	.4	1.7	0	0
WNW	.1	1.6	0	0
NW	.7	1.4	14	17
NNW	.6	1.3	0	2
N	.9	1.8	2	6

LOCATION 12

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.3	2.1	0	0
NE	.4	2.0	0	0
ENE	.6	2.2	2	2
E	.7	2.3	3	2
ESE	.7	2.0	1	1
SE	.6	1.6	0	0
SSE	.5	1.8	0	0
S	.7	1.8	2	2
SSW	.8	1.9	1	1
SW	.7	1.8	7	11
WSW	.3	1.9	0	0
W	.8	2.6	48	37
WNW	.5	2.5	2	2
NW	.7	2.0	19	19
NNW	.6	1.6	5	8
N	1.0	2.2	10	14

LOCATION 13

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.6	2.6	0	0
NE	.4	2.1	0	0
ENE	.6	2.1	0	0
E	.5	2.0	0	0
ESE	.7	1.9	0	0
SE	.1	1.7	0	0
SSE	.1	1.4	0	0
S	.5	1.7	0	0
SSW	.6	1.6	0	0
SW	1.0	2.1	41	45
WSW	.6	1.7	0	0
W	1.0	2.3	48	39
WNW	.6	1.6	1	1
NW	.6	1.5	0	1
NNW	.8	2.0	11	15
N	.7	2.4	0	0

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.0	1	0
NE	.5	1.8	0	0
ENE	.7	1.7	5	4
E	.4	1.7	0	0
ESE	.3	1.6	0	0
SE	1.0	2.1	1	3
SSE	.7	1.7	0	0
S	.6	1.6	0	0
SSW	.6	1.6	0	0
SW	.2	1.3	0	0
WSW	.1	1.6	0	0
W	.6	2.2	1	1
WNW	.8	2.1	36	28
NW	.7	1.8	12	13
NNW	.8	1.6	23	23
N	1.2	2.7	23	26

LOCATION 15

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	1.5	0	0
NE	.1	1.3	0	0
ENE	.7	1.8	0	0
E	1.2	2.6	6	5
ESE	1.9	3.2	87	77
SE	1.3	2.7	0	1
SSE	.8	2.2	0	0
S	.9	2.6	0	0
SSW	.9	2.3	0	0
SW	.3	1.3	0	0
WSW	.4	1.8	0	0
W	.4	1.7	0	0
WNW	.7	1.6	0	0
NW	1.0	1.7	6	13
NNW	.9	1.7	1	4
N	.7	1.7	0	0

LOCATION 16

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.6	1.3	0	0
NE	.2	1.3	0	0
ENE	.4	1.4	0	0
E	.9	2.2	6	4
ESE	1.2	2.4	45	36
SE	1.1	2.4	1	2
SSE	.9	2.1	0	0
S	.8	2.0	2	3
SSW	.9	2.0	1	1
SW	.4	1.2	0	0
WSW	.3	1.3	0	0
W	.6	1.5	0	0
WNW	.7	1.4	7	8
NW	.8	1.5	19	22
NNW	.9	1.5	19	23
N	.6	1.4	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.5	1.4	0	0
NE	.4	1.3	0	0
ENE	.6	1.6	0	0
E	1.0	2.1	7	6
ESE	1.4	2.7	88	78
SE	1.0	2.5	0	1
SSE	.7	2.0	0	0
S	.8	2.3	1	2
SSW	.9	2.3	1	3
SW	.1	1.2	0	0
WSW	.3	1.3	0	0
W	.6	1.5	0	1
WNW	.6	1.4	0	1
NW	.6	1.4	1	3
NNW	.6	1.4	0	1
N	.9	2.1	0	3

LOCATION 18

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	1.4	0	0
NE	.3	1.3	0	0
ENE	.6	1.5	1	2
E	.9	2.1	8	7
ESE	1.3	2.6	84	74
SE	1.0	2.3	1	4
SSE	.9	2.0	0	1
S	.7	1.7	1	2
SSW	.7	1.4	0	0
SW	.3	1.4	0	1
WSW	.4	1.6	0	0
W	.6	1.6	0	1
WNW	.7	1.4	2	4
NW	.3	1.4	0	1
NNW	.6	1.4	0	2
N	.6	1.6	0	1

TABLE E-21
MEAN WIND SPEED RATIOS

LOCATION 10

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.3	10	6
NE	.8	1.7	7	5
ENE	.6	1.6	1	2
E	.1	1.5	0	0
ESE	.4	1.4	0	0
SE	.3	1.6	0	0
SSE	.4	1.5	0	0
S	.5	1.6	0	0
SSW	.7	1.8	0	1
SW	.5	1.3	0	0
WSW	.5	1.8	1	1
W	.7	1.9	17	15
WNW	.7	1.8	33	30
NW	.8	1.8	22	24
NNW	.7	1.8	9	14
N	.6	1.9	0	1

LOCATION 11

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.1	3	2
NE	.8	2.3	23	17
ENE	.9	2.0	14	13
E	.6	2.0	2	2
ESE	1.0	2.3	20	20
SE	.8	2.2	0	1
SSE	.8	2.3	1	1
S	1.0	2.4	23	23
SSW	.9	2.4	7	9
SW	.6	1.4	0	1
WSW	.6	1.8	2	4
W	.4	1.7	1	2
WNW	.1	1.6	0	0
NW	.7	1.4	1	3
NNW	.6	1.3	0	1
N	.9	1.8	0	2

LOCATION 12

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.3	2.1	0	0
NE	.4	2.0	1	1
ENE	.6	2.2	4	4
E	.7	2.3	4	3
ESE	.7	2.0	1	1
SE	.6	1.6	0	0
SSE	.5	1.8	0	0
S	.7	1.8	1	1
SSW	.8	1.9	0	0
SW	.7	1.8	1	3
WSW	.3	1.9	0	0
W	.8	2.6	48	42
WNW	.5	2.5	32	29
NW	.7	2.0	8	11
NNW	.6	1.6	0	2
N	1.0	2.2	1	4

LOCATION 13

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.6	2.6	4	3
NE	.4	2.1	3	2
ENE	.6	2.1	4	4
E	.5	2.0	1	0
ESE	.7	1.9	0	0
SE	.1	1.7	0	0
SSE	.1	1.4	0	0
S	.5	1.7	0	0
SSW	.6	1.6	0	0
SW	1.0	2.1	24	30
WSW	.6	1.7	0	0
W	1.0	2.3	51	41
WNW	.6	1.6	1	1
NW	.6	1.5	0	1
NNW	.8	2.0	9	13
N	.7	2.4	1	5

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.0	1	1
NE	.5	1.8	2	2
ENE	.7	1.7	2	3
E	.4	1.7	0	0
ESE	.3	1.6	0	0
SE	1.0	2.1	0	1
SSE	.7	1.7	0	0
S	.6	1.6	0	0
SSW	.6	1.6	0	0
SW	.2	1.3	0	0
WSW	.1	1.6	0	0
W	.6	2.2	26	21
WNW	.8	2.1	35	30
NW	.7	1.8	11	13
NNW	.8	1.6	3	6
N	1.2	2.7	20	24

LOCATION 15

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	1.5	0	0
NE	.1	1.3	93	80
ENE	.7	1.8	0	0
E	1.2	2.6	1	2
ESE	1.9	3.2	6	16
SE	1.3	2.7	0	0
SSE	.8	2.2	0	0
S	.9	2.6	0	0
SSW	.9	2.3	0	0
SW	.3	1.3	0	0
WSW	.4	1.8	0	0
W	.4	1.7	0	0
WNW	.7	1.6	0	0
NW	1.0	1.7	0	1
NNW	.9	1.7	0	0
N	.7	1.7	0	0

LOCATION 16

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.6	1.3	0	0
NE	.2	1.3	0	0
ENE	.4	1.4	0	1
E	.9	2.2	14	9
ESE	1.2	2.4	50	40
SE	1.1	2.4	2	5
SSE	.9	2.1	1	1
S	.8	2.0	9	9
SSW	.9	2.0	2	4
SW	.4	1.2	0	0
WSW	.3	1.3	0	0
W	.6	1.5	3	3
WNW	.7	1.4	2	2
NW	.8	1.5	9	13
NNW	.9	1.5	8	13
N	.6	1.4	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.5	1.4	0	0
NE	.4	1.3	0	0
ENE	.6	1.6	1	2
E	1.0	2.1	9	6
ESE	1.4	2.7	70	59
SE	1.0	2.5	1	3
SSE	.7	2.0	0	1
S	.8	2.3	10	11
SSW	.9	2.3	5	7
SW	.1	1.2	0	0
WSW	.3	1.3	0	0
W	.6	1.5	1	1
WNW	.6	1.4	0	1
NW	.6	1.4	2	5
NNW	.6	1.4	0	1
N	.9	2.1	1	4

LOCATION 18

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	1.4	0	0
NE	.3	1.3	0	0
ENE	.6	1.5	1	2
E	.9	2.1	8	7
ESE	1.3	2.6	84	74
SE	1.0	2.3	1	4
SSE	.9	2.0	0	1
S	.7	1.7	1	2
SSW	.8	1.8	0	1
SW	.1	1.2	0	0
WSW	.4	1.2	0	0
W	.6	1.5	2	3
WNW	.7	1.4	2	4
NW	.3	1.4	0	1
NNW	.6	1.4	0	2
N	.6	1.6	0	1

TABLE E-22
EFFECTIVE WIND SPEED RATIOS

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.3	0	0
NE	.4	1.4	0	0
ENE	.7	1.8	4	4
E	.9	2.2	7	5
ESE	1.2	2.5	58	49
SE	.8	2.3	0	0
SSE	.8	2.0	0	1
S	.8	2.4	4	5
SSW	1.0	2.4	10	10
SW	.4	1.3	0	0
WSW	.1	1.4	0	0
W	.8	1.8	11	11
WNW	.5	1.4	1	1
NW	.3	1.3	0	0
NNW	.7	1.4	4	9
N	.9	1.9	1	5

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.3	0	0
NE	.1	1.3	0	0
ENE	.5	1.5	0	0
E	.1	1.3	0	0
ESE	.6	1.8	0	0
SE	.1	1.7	0	0
SSE	.6	2.0	0	0
S	.8	2.2	3	3
SSW	1.0	2.3	20	15
SW	.4	1.3	0	0
WSW	.4	1.2	0	0
W	.7	1.5	6	6
WNW	.7	1.4	24	22
NW	.7	1.4	18	21
NNW	.8	1.4	28	29
N	.8	1.9	1	3

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.4	1	1
NE	1.1	2.4	9	7
ENE	1.1	2.3	7	7
E	1.1	2.6	5	4
ESE	1.2	2.5	6	7
SE	.6	1.7	0	0
SSE	.6	1.8	0	0
S	.8	1.8	0	0
SSW	1.2	2.2	3	5
SW	.6	1.5	0	0
WSW	.9	2.3	1	1
W	1.3	3.0	61	56
WNW	.7	2.0	0	0
NW	.5	1.4	0	0
NNW	1.0	1.8	7	12
N	.9	2.2	0	1

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.3	1.8	0	0
NE	.1	2.2	0	0
ENE	.1	2.2	0	0
E	.6	2.2	3	2
ESE	.9	1.9	31	25
SE	.4	1.5	0	0
SSE	.4	1.5	0	0
S	.3	1.4	0	0
SSW	.5	1.4	0	0
SW	.4	1.3	0	1
WSW	.6	1.5	2	2
W	.7	1.7	27	23
WNW	.6	1.5	30	27
NW	.5	1.4	1	3
NNW	.6	1.6	7	12
N	.8	2.6	2	7

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.1	0	0
NE	.3	1.2	0	0
ENE	.1	1.1	0	0
E	.1	1.3	0	0
ESE	.1	1.2	0	0
SE	.1	1.2	0	0
SSE	.1	1.1	0	0
S	.3	1.2	0	0
SSW	.5	1.3	1	1
SW	.4	1.2	4	7
WSW	.5	1.2	4	5
W	.5	1.4	21	16
WNW	.5	1.3	63	50
NW	.2	1.2	0	0
NNW	.1	1.2	0	0
N	.5	1.3	0	1

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.3	0	0
NE	.5	1.3	0	0
ENE	.4	1.8	0	0
E	.6	2.3	0	0
ESE	.8	2.0	0	0
SE	.9	2.2	0	0
SSE	.9	2.3	0	0
S	1.3	3.0	19	29
SSW	1.8	3.1	82	68
SW	.5	1.5	0	0
WSW	.5	1.5	0	0
W	.8	1.7	1	3
WNW	.6	1.3	0	0
NW	.4	1.2	0	0
NNW	.4	1.2	0	0
N	.5	1.3	0	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.4	0	0
NE	.8	1.5	1	3
ENE	.1	1.7	0	0
E	.3	2.2	0	0
ESE	.1	1.7	0	0
SE	.6	1.9	0	0
SSE	.5	2.0	0	0
S	.9	2.5	2	6
SSW	1.8	3.1	98	90
SW	.1	1.4	0	0
WSW	.5	1.3	0	0
W	.6	1.5	0	0
WNW	.4	1.3	0	0
NW	.4	1.2	0	0
NNW	.5	1.2	0	0
N	.6	1.2	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	1.7	6	5
NE	1.1	2.1	62	46
ENE	.7	1.6	6	7
E	.7	2.3	3	2
ESE	.8	2.7	6	9
SE	.9	2.6	0	1
SSE	.7	2.2	0	0
S	.6	1.7	0	1
SSW	.9	2.3	5	8
SW	.6	1.8	2	6
WSW	.6	1.6	0	1
W	.6	1.3	4	5
WNW	.1	1.9	0	0
NW	.6	1.3	3	7
NNW	.4	1.7	0	0
N	.6	1.3	0	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.1	1	1
NE	1.1	2.3	38	26
ENE	.7	1.6	3	3
E	.6	1.9	0	0
ESE	.9	2.4	6	7
SE	.8	1.8	0	0
SSE	.8	2.0	0	0
S	.6	2.1	0	0
SSW	1.1	2.0	17	14
SW	.6	1.6	1	4
WSW	.6	1.8	0	0
W	.7	2.2	9	9
WNW	.6	1.7	1	2
NW	.7	1.6	9	12
NNW	.8	1.7	11	16
N	.8	1.8	0	2

TABLE E-23
MEAN WIND SPEED RATIOS

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.3	0	0
NE	.4	1.4	0	0
ENE	.7	1.8	3	4
E	.9	2.0	6	4
ESE	1.2	2.5	42	37
SE	.8	2.3	0	2
SSE	.8	2.0	0	1
S	.8	2.4	16	16
SSW	1.0	2.4	12	11
SW	.4	1.3	0	0
WSW	.1	1.4	0	0
W	.8	1.8	17	17
WNW	.5	1.4	1	2
NW	.3	1.3	0	0
NNW	.7	1.4	0	2
N	.9	1.9	1	4

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.3	0	0
NE	.1	1.3	0	0
ENE	.5	1.5	0	0
E	.1	1.3	0	0
ESE	.6	1.8	7	6
SE	.1	1.7	14	16
SSE	.6	2.0	0	1
S	.8	2.2	23	19
SSW	1.0	2.3	26	18
SW	.4	1.3	0	0
WSW	.4	1.2	0	0
W	.7	1.5	4	4
WNW	.7	1.4	7	6
NW	.7	1.4	11	13
NNW	.8	1.4	6	10
N	.8	1.9	2	6

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.4	1	1
NE	1.1	2.4	7	6
ENE	1.1	2.3	6	6
E	1.1	2.6	5	3
ESE	1.2	2.5	2	3
SE	.6	1.7	0	0
SSE	.6	1.8	0	0
S	.8	1.8	0	0
SSW	1.2	2.2	0	1
SW	.6	1.5	0	0
WSW	.9	2.3	1	2
W	1.3	3.0	76	71
WNW	.7	2.0	1	2
NW	.5	1.4	0	0
NNW	1.0	1.8	1	4
N	.9	2.2	0	1

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.3	1.8	0	0
NE	.1	2.2	5	3
ENE	.1	2.2	4	4
E	.6	2.2	16	10
ESE	.9	1.9	12	11
SE	.4	1.5	0	0
SSE	.4	1.5	0	0
S	.3	1.4	0	0
SSW	.5	1.4	0	0
SW	.4	1.3	0	0
WSW	.6	1.5	1	1
W	.7	1.7	30	26
WNW	.6	1.5	6	6
NW	.5	1.4	0	0
NNW	.6	1.6	6	11
N	.8	2.6	19	25

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.1	0	0
NE	.3	1.2	0	0
ENE	.1	1.1	0	0
E	.1	1.3	0	0
ESE	.1	1.2	0	0
SE	.1	1.2	0	0
SSE	.1	1.1	0	0
S	.3	1.2	0	0
SSW	.5	1.3	0	0
SW	.4	1.2	0	2
WSW	.5	1.2	5	7
W	.5	1.4	63	57
WNW	.5	1.3	32	31
NW	.2	1.2	0	0
NNW	.1	1.2	1	3
N	.5	1.3	0	0

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.3	0	0
NE	.5	1.3	0	0
ENE	.4	1.8	0	1
E	.6	2.3	2	2
ESE	.8	2.0	0	1
SE	.9	2.2	0	0
SSE	.9	2.3	0	1
S	1.3	3.0	38	44
SSW	1.8	3.1	58	47
SW	.3	1.5	0	0
WSW	.5	1.5	0	0
W	.8	1.7	2	4
WNW	.6	1.3	0	0
NW	.4	1.2	0	0
NNW	.4	1.2	0	0
N	.5	1.3	0	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.4	0	0
NE	.8	1.5	1	1
ENE	.1	1.7	0	0
E	.3	2.2	1	2
ESE	.1	1.7	0	0
SE	.6	1.9	0	0
SSE	.5	2.0	0	0
S	.9	2.5	19	29
SSW	1.8	3.1	80	67
SW	.1	1.4	0	0
WSW	.5	1.3	0	0
W	.6	1.5	0	0
WNW	.4	1.3	0	0
NW	.4	1.2	0	0
NNW	.5	1.2	0	0
N	.5	1.2	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	1.7	1	1
NE	1.1	2.1	34	26
ENE	.7	1.8	5	6
E	.7	2.3	14	11
ESE	.8	2.7	35	34
SE	.9	2.6	1	4
SSE	.7	2.2	0	1
S	.6	1.7	1	2
SSW	.9	2.3	5	7
SW	.6	1.8	0	0
WSW	.6	1.6	1	1
W	.6	1.3	0	0
WNW	.1	1.9	0	0
NW	.6	1.3	0	1
NNW	.4	1.7	1	5
N	.6	1.3	0	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.1	2	1
NE	1.1	2.3	38	27
ENE	.7	1.6	1	2
E	.6	1.9	1	1
ESE	.9	2.4	17	16
SE	.8	1.8	0	0
SSE	.8	2.0	0	1
S	.6	2.1	1	1
SSW	1.1	2.0	5	6
SW	.6	1.6	0	0
WSW	.6	1.8	1	1
W	.7	2.2	15	15
WNW	.6	1.7	6	7
NW	.7	1.6	2	6
NNW	.8	1.7	8	13
N	.8	1.8	0	2

TABLE E-24
EFFECTIVE WIND SPEED RATIOS

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.5	0	0
NE	1.1	2.1	2	3
ENE	1.1	2.6	2	3
E	1.7	3.3	17	13
ESE	2.1	3.8	68	61
SE	2.3	4.0	7	13
SSE	1.9	3.5	3	3
S	.8	2.3	0	0
SSW	.6	2.0	0	0
SW	.9	2.3	0	2
WSW	1.2	2.2	1	2
W	.8	1.9	0	0
WNW	.6	2.2	0	0
NW	.8	1.7	0	1
NNW	.8	2.0	0	0
N	.8	1.6	0	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	1.9	0	0
NE	.7	2.4	9	8
ENE	1.1	2.8	46	37
E	.5	2.2	0	0
ESE	.8	2.2	3	5
SE	.8	2.4	0	0
SSE	.8	2.7	0	1
S	.7	2.0	1	1
SSW	1.1	2.3	31	26
SW	.6	1.8	1	5
WSW	.6	1.7	0	1
W	.6	2.1	1	2
WNW	.6	1.9	2	4
NW	.6	1.3	3	8
NNW	.5	1.4	0	2
N	.1	1.5	0	0

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.6	2.7	19	13
NE	1.6	2.7	47	33
ENE	1.0	2.2	3	3
E	.8	1.9	0	0
ESE	1.1	2.0	1	1
SE	.8	2.1	0	0
SSE	1.0	2.5	0	0
S	.9	1.9	0	0
SSW	.8	1.9	0	0
SW	.7	2.1	0	1
WSW	1.0	2.1	1	1
W	.9	1.8	1	1
WNW	.5	1.5	0	0
NW	.8	1.6	2	5
NNW	1.1	2.1	13	20
N	1.5	2.8	11	19

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.8	4	3
NE	1.5	2.7	33	26
ENE	1.5	2.8	25	22
E	.7	2.1	0	0
ESE	.6	1.6	0	0
SE	1.1	2.1	0	0
SSE	1.0	2.0	0	0
S	.9	2.3	0	0
SSW	.9	1.8	0	0
SW	.8	2.1	0	1
WSW	.9	1.8	0	0
W	1.0	2.3	4	6
WNW	1.2	2.8	34	40
NW	.7	1.7	0	0
NNW	.6	1.5	0	0
N	.1	1.8	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.5	0	0
NE	.8	1.8	2	2
ENE	.5	2.0	0	0
E	.5	2.5	0	0
ESE	.9	1.8	0	0
SE	.8	2.0	0	0
SSE	.8	1.9	0	0
S	.7	1.7	0	0
SSW	1.0	2.2	0	1
SW	.3	1.6	0	0
WSW	.7	1.6	0	0
W	.8	2.2	1	1
WNW	1.0	2.1	26	28
NW	1.1	2.4	72	67
NNW	.7	1.9	0	1
N	.7	1.8	0	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.3	0	0
NE	.4	1.3	1	1
ENE	.1	1.3	0	0
E	.3	1.1	0	0
ESE	.4	1.1	1	1
SE	.1	1.8	0	0
SSE	.3	1.1	0	0
S	.1	1.8	0	0
SSW	.4	1.1	0	0
SW	.2	1.0	0	0
WSW	.2	1.1	0	0
W	.1	1.2	0	0
WNW	.1	1.1	0	0
NW	.1	1.6	0	0
NNW	.3	1.2	0	0
N	.1	1.2	0	0

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.1	0	0
NE	.2	1.4	0	0
ENE	.3	1.2	0	0
E	.1	1.3	0	0
ESE	.3	1.0	0	0
SE	.1	1.7	0	0
SSE	.1	1.7	0	0
S	.1	1.1	0	0
SSW	.1	1.4	0	0
SW	.1	1.1	0	0
WSW	.1	1.1	0	0
W	.1	1.2	0	0
WNW	.1	1.7	0	0
NW	.1	1.1	0	0
NNW	.1	1.3	0	0
N	.1	1.1	0	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.9	1	1
NE	.8	1.4	19	15
ENE	.6	1.4	1	2
E	.1	1.2	0	0
ESE	.3	1.1	0	0
SE	.1	1.1	0	0
SSE	.1	1.3	0	0
S	.1	1.6	0	0
SSW	.6	1.4	0	0
SW	.1	1.3	0	0
WSW	.4	1.2	0	0
W	.4	1.4	0	0
WNW	.8	1.6	71	71
NW	.6	1.2	8	14
NNW	.1	1.1	0	0
N	.4	1.7	0	0

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.7	0	0
NE	.5	2.0	0	0
ENE	.5	2.1	0	0
E	.4	1.9	0	0
ESE	.3	1.5	0	0
SE	.1	1.1	0	0
SSE	.1	1.4	0	0
S	.1	2.3	0	0
SSW	.4	1.9	0	0
SW	.3	3.0	0	0
WSW	.1	2.1	0	0
W	.1	2.4	0	0
WNW	.1	2.7	0	0
NW	.8	3.1	0	0
NNW	2.0	3.6	92	81
N	2.0	3.3	9	19

TABLE E-25
MEAN WIND SPEED RATIOS

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.5	0	0
NE	1.1	2.1	2	3
ENE	1.1	2.6	2	3
E	1.7	3.3	21	16
ESE	2.1	3.8	66	58
SE	2.3	4.0	4	9
SSE	1.9	3.5	3	3
S	.8	2.3	0	0
SSW	.6	2.0	0	0
SW	.9	2.3	1	6
WSW	1.2	2.2	1	2
W	.8	1.9	0	1
WNW	.6	2.2	0	0
NW	.8	1.7	0	0
NNW	.8	2.0	0	1
N	.8	1.6	0	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	1.9	0	0
NE	.7	2.4	19	15
ENE	1.1	2.8	38	31
E	.5	2.2	1	1
ESE	.8	2.2	6	8
SE	.8	2.4	0	1
SSE	.8	2.7	1	1
S	.7	2.0	2	3
SSW	1.1	2.3	13	13
SW	.6	1.8	1	4
WSW	.6	1.7	0	1
W	.6	2.1	8	9
WNW	.6	1.9	9	12
NW	.6	1.3	0	0
NNW	.5	1.4	0	0
N	.1	1.5	0	0

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.6	2.7	17	11
NE	1.6	2.7	41	28
ENE	1.0	2.2	7	7
E	.8	1.9	0	0
ESE	1.1	2.0	1	1
SE	.8	2.1	0	0
SSE	1.0	2.5	0	0
S	.9	1.9	0	1
SSW	.8	1.9	0	0
SW	.7	2.1	2	5
WSW	1.0	2.1	3	4
W	.9	1.8	3	3
WNW	.5	1.5	0	0
NW	.8	1.6	0	0
NNW	1.1	2.1	13	19
N	1.5	2.8	12	19

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.8	3	2
NE	1.5	2.7	17	14
ENE	1.5	2.8	16	15
E	.7	2.1	0	0
ESE	.6	1.6	0	0
SE	1.1	2.1	0	0
SSE	1.0	2.0	0	0
S	.9	2.3	0	0
SSW	.9	1.8	0	0
SW	.8	2.1	0	3
WSW	.9	1.8	0	0
W	1.0	2.3	4	5
WNW	1.2	2.8	60	61
NW	.7	1.7	0	0
NNW	.6	1.5	0	0
N	.1	1.8	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.5	0	0
NE	.8	1.8	0	0
ENE	.5	2.0	0	0
E	.5	2.5	0	0
ESE	.9	1.8	0	0
SE	.8	2.0	0	0
SSE	.8	1.9	0	0
S	.7	1.7	0	0
SSW	1.0	2.2	0	1
SW	.3	1.6	0	0
WSW	.7	1.6	0	0
W	.8	2.2	2	2
WNW	1.0	2.1	29	30
NW	1.1	2.4	68	63
NNW	.7	1.9	0	3
N	.7	1.8	0	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.3	0	0
NE	.4	1.3	0	0
ENE	.1	1.3	82	64
E	.3	1.1	0	0
ESE	.4	1.1	0	0
SE	.1	1.8	0	0
SSE	.3	1.1	0	0
S	.1	1.8	8	11
SSW	.4	1.1	0	0
SW	.2	1.0	0	0
WSW	.2	1.1	0	0
W	.1	1.2	0	1
WNW	.1	1.1	1	3
NW	.1	1.6	8	17
NNW	.3	1.2	0	1
N	.1	1.2	0	0

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.1	0	0
NE	.2	1.4	0	0
ENE	.3	1.2	0	0
E	.1	1.3	0	0
ESE	.3	1.0	0	0
SE	.1	1.7	93	90
SSE	.1	1.7	0	0
S	.1	1.1	0	0
SSW	.1	1.4	6	10
SW	.1	1.1	0	0
WSW	.1	1.1	0	0
W	.1	1.2	0	0
WNW	.1	1.7	0	0
NW	.1	1.1	0	0
NNW	.1	1.3	0	0
N	.1	1.1	0	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.9	4	3
NE	.8	1.4	2	2
ENE	.6	1.4	1	1
E	.1	1.2	0	0
ESE	.3	1.1	0	0
SE	.1	1.1	0	0
SSE	.1	1.3	0	0
S	.1	1.6	0	0
SSW	.6	1.4	0	0
SW	.1	1.3	0	1
WSW	.4	1.2	0	0
W	.4	1.4	7	7
WNW	.8	1.6	78	72
NW	.6	1.2	6	10
NNW	.1	1.1	1	4
N	.4	1.7	0	1

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.7	0	0
NE	.5	2.0	0	0
ENE	.5	2.1	0	0
E	.4	1.9	0	0
ESE	.3	1.5	0	0
SE	.1	1.1	0	0
SSE	.2	1.4	0	0
S	.1	2.3	0	0
SSW	.4	1.9	0	0
SW	.3	3.0	0	0
WSW	.1	2.1	0	0
W	.1	2.4	0	0
WNW	.1	2.7	0	0
NW	.8	3.1	15	21
NNW	2.0	3.6	81	69
N	2.0	3.3	4	10

TABLE E-26
EFFECTIVE WIND SPEED RATIOS

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.6	2.4	2	1
NE	1.9	2.7	21	15
ENE	1.5	2.5	7	6
E	1.7	2.6	1	0
ESE	.8	1.5	0	0
SE	.6	1.4	0	0
SSE	.7	2.3	0	0
S	1.5	3.4	14	12
SSW	1.8	3.4	15	13
SW	1.2	2.5	6	12
WSW	.8	1.9	0	0
W	1.2	2.3	4	3
WNW	1.0	2.5	10	10
NW	1.3	2.4	20	22
NNW	.9	2.0	0	2
N	1.4	2.6	0	4

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.3	0	0
NE	1.4	2.4	6	5
ENE	1.2	2.2	1	2
E	.6	1.6	0	0
ESE	.8	1.6	0	0
SE	.6	1.5	0	0
SSE	.7	1.8	0	0
S	1.3	2.9	5	5
SSW	1.5	2.8	3	4
SW	.9	1.8	0	0
WSW	.5	1.5	0	0
W	1.5	2.5	20	17
WNW	1.0	2.2	6	5
NW	1.5	2.6	45	42
NNW	1.4	2.4	15	19
N	1.1	2.2	0	0

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.6	0	0
NE	.5	1.5	0	0
ENE	.6	1.5	0	0
E	1.4	2.9	13	8
ESE	1.7	2.9	22	17
SE	.9	2.2	0	0
SSE	.6	1.6	0	0
S	.6	1.8	0	0
SSW	1.0	2.3	0	0
SW	1.3	2.5	25	30
WSW	.9	2.3	1	1
W	.6	2.0	1	1
WNW	.9	2.1	7	6
NW	1.0	2.3	17	19
NNW	1.3	2.3	15	18
N	1.0	1.8	6	0

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.4	0	0
NE	.4	1.6	0	0
ENE	.8	2.4	2	2
E	1.3	2.9	12	7
ESE	1.4	2.8	9	8
SE	1.0	2.4	0	0
SSE	.7	2.0	0	0
S	.7	2.1	0	0
SSW	.7	2.1	0	0
SW	1.3	2.6	27	33
WSW	1.1	2.6	6	7
W	1.0	2.3	9	8
WNW	.8	2.5	28	23
NW	.7	1.9	1	2
NNW	1.0	2.4	5	6
N	.7	1.5	2	0

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.0	0	0
NE	.9	2.5	0	0
ENE	1.3	3.0	6	6
E	1.2	2.9	3	2
ESE	1.2	2.5	0	0
SE	1.1	2.5	0	0
SSE	.9	2.2	0	0
S	1.1	2.4	0	0
SSW	.8	2.1	0	0
SW	.9	2.1	0	1
WSW	.8	2.2	0	0
W	1.3	2.8	6	6
WNW	1.5	3.0	63	56
NW	1.2	2.7	20	24
NNW	.9	2.4	1	4
N	.9	2.5	0	0

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.1	0	0
NE	.6	2.0	0	0
ENE	.8	2.5	0	1
E	.7	2.0	0	0
ESE	1.5	2.5	0	0
SE	1.3	2.2	0	0
SSE	1.1	2.0	0	0
S	1.3	2.4	0	0
SSW	1.0	2.5	0	0
SW	.5	1.4	0	0
WSW	.7	1.8	0	0
W	.7	2.2	0	0
WNW	1.1	2.9	6	8
NW	1.5	3.4	48	46
NNW	1.7	3.6	45	44
N	1.3	2.8	0	1

LOCATION 43

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.1	0	0
NE	.6	2.2	0	0
ENE	1.1	3.2	5	5
E	.7	2.2	0	0
ESE	.8	1.7	0	0
SE	.4	1.6	0	0
SSE	.5	1.9	0	0
S	.7	1.6	0	0
SSW	.4	1.7	0	0
SW	1.1	2.8	3	8
WSW	.7	2.1	0	0
W	1.3	3.1	18	15
WNW	1.4	3.1	47	42
NW	1.0	3.1	27	28
NNW	.9	2.3	0	2
N	.7	2.2	0	0

LOCATION 44

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.7	1	1
NE	1.0	2.2	2	1
ENE	.5	2.3	0	0
E	.5	1.6	0	0
ESE	.7	1.7	0	0
SE	.5	1.5	0	0
SSE	.5	1.6	0	0
S	.7	1.5	0	0
SSW	.5	2.2	0	0
SW	1.2	2.9	22	28
WSW	.9	2.4	1	1
W	.9	2.4	4	4
WNW	.5	2.1	1	1
NW	.0	2.5	15	17
NNW	1.4	2.9	54	45
N	1.1	2.4	0	1

LOCATION 45

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.4	0	0
NE	.7	2.1	0	0
ENE	.8	2.6	0	0
E	.9	2.2	0	0
ESE	1.0	1.8	0	0
SE	.5	1.5	0	0
SSE	.6	2.1	0	0
S	.7	1.7	0	0
SSW	.8	2.5	0	0
SW	1.4	3.2	12	18
WSW	1.3	3.2	2	3
W	1.1	2.7	1	1
WNW	1.6	3.6	58	48
NW	1.3	3.2	35	23
NNW	1.0	2.8	2	6
N	1.1	2.7	1	0

TABLE E-28
EFFECTIVE WIND SPEED RATIOS

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.6	2.4	4	3
NE	1.9	2.7	42	28
ENE	1.5	2.5	11	10
E	1.2	2.7	1	0
ESE	.8	1.5	0	0
SE	.6	1.4	0	0
SSE	.7	2.3	0	0
S	1.5	3.4	5	6
SSW	1.8	3.4	11	11
SW	1.2	2.5	3	9
WSW	.8	1.9	0	0
W	1.2	2.3	3	3
WNW	1.0	2.5	2	2
NW	1.3	2.4	19	23
NNW	.9	2.0	0	2
N	1.4	2.6	0	2

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.3	0	0
NE	1.4	2.4	8	6
ENE	1.2	2.2	1	2
E	.6	1.6	0	0
ESE	.8	1.6	0	0
SE	.6	1.5	0	0
SSE	.7	1.8	0	0
S	1.3	2.9	1	1
SSW	1.5	2.8	1	3
SW	.9	1.8	0	0
WSW	.5	1.5	0	0
W	1.5	2.5	26	22
WNW	1.0	2.2	1	1
NW	1.5	2.6	47	45
NNW	1.4	2.4	14	19
N	1.1	2.2	0	0

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.6	0	0
NE	.5	1.5	0	0
ENE	.6	1.8	1	0
E	.4	2.0	1	1
ESE	.7	2.2	33	26
SE	.9	2.3	0	0
SSE	.6	1.6	0	0
S	.6	1.8	0	0
SSW	1.0	2.3	0	0
SW	1.3	2.5	24	31
WSW	.9	2.3	0	0
W	.6	2.0	0	0
WNW	.9	2.1	1	1
NW	1.0	2.3	7	10
NNW	1.3	2.3	26	27
N	1.0	1.8	0	0

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.4	0	0
NE	.4	1.6	0	0
ENE	.8	2.4	0	1
E	1.3	2.9	12	7
ESE	1.4	2.8	18	15
SE	1.0	2.4	0	0
SSE	.7	2.0	0	0
S	.7	2.1	0	0
SSW	.7	2.1	0	0
SW	1.3	2.6	42	46
WSW	1.1	2.6	6	7
W	1.0	2.3	11	8
WNW	.8	2.5	2	2
NW	.7	1.9	0	1
NNW	1.0	2.4	8	12
N	.7	1.5	0	0

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.0	0	0
NE	.9	2.5	0	0
ENE	1.3	3.0	5	5
E	1.2	2.9	2	1
ESE	1.2	2.5	0	1
SE	1.1	2.5	0	0
SSE	.9	2.2	0	0
S	1.1	2.4	0	0
SSW	.8	2.1	0	0
SW	.9	2.1	0	1
WSW	.8	2.2	0	0
W	1.3	2.8	10	9
WNW	1.5	3.0	72	66
NW	1.2	2.7	12	16
NNW	.9	2.4	0	1
N	.9	2.5	0	0

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.1	0	0
NE	.6	2.0	0	0
ENE	.8	2.5	0	0
E	.7	2.0	0	0
ESE	1.5	2.5	2	3
SE	1.3	2.2	0	0
SSE	1.1	2.0	0	0
S	1.3	2.4	1	1
SSW	1.0	2.5	0	0
SW	.5	1.4	0	0
WSW	.7	1.8	0	0
W	.7	2.2	0	0
WNW	1.1	2.9	2	3
NW	1.5	3.4	42	42
NNW	1.7	3.4	54	52
N	1.3	2.8	0	1

LOCATION 43

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.1	0	0
NE	.8	2.2	0	0
ENE	1.1	3.2	2	2
E	.7	2.2	0	0
ESE	.8	1.7	0	0
SE	.4	1.6	0	0
SSE	.5	1.9	0	0
S	.7	1.6	0	0
SSW	.4	1.7	0	0
SW	1.1	2.8	4	9
WSW	.7	2.1	0	0
W	1.3	3.1	22	20
WNW	1.4	3.1	66	58
NW	1.0	3.1	6	9
NNW	.9	2.3	1	2
N	.7	2.2	0	0

LOCATION 44

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.7	1	0
NE	1.0	2.2	2	2
ENE	.5	2.3	0	0
E	.5	1.6	0	0
ESE	.7	1.7	0	0
SE	.5	1.5	0	0
SSE	.6	2.1	0	0
S	.7	1.7	0	0
SSW	.5	2.2	0	0
SW	1.2	2.9	20	29
WSW	.9	2.4	0	0
W	.9	2.4	2	2
WNW	.5	2.1	0	0
NW	.9	2.5	2	5
NNW	1.4	2.9	73	60
N	1.1	2.4	0	2

LOCATION 45

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.4	0	0
NE	.7	2.1	0	0
ENE	.8	2.5	0	0
E	.9	2.2	0	0
ESE	1.0	1.8	0	0
SE	.5	1.5	0	0
SSE	.6	2.1	0	0
S	.7	1.7	0	0
SSW	.8	2.5	0	0
SW	1.4	3.2	12	18
WSW	1.3	3.2	2	2
W	1.1	2.7	1	1
WNW	1.6	3.6	72	61
NW	1.3	3.2	12	12
NNW	1.0	2.8	0	2
N	1.1	2.7	0	0

TABLE E-27
MEAN WIND SPEED RATIOS

LOCATION 46

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.5	1.9	0	0
NE	.7	2.0	0	0
ENE	.8	2.6	2	2
E	1.0	2.7	1	1
ESE	1.2	2.1	0	0
SE	.8	1.8	0	0
SSE	.7	2.2	0	0
S	1.0	1.9	0	0
SSW	.7	1.9	0	0
SW	1.1	2.5	6	12
WSW	1.3	3.1	8	10
W	.8	2.1	0	0
WNW	1.3	3.0	77	66
NW	.7	2.5	5	9
NNW	.7	1.7	0	0
N	.7	2.3	0	0

LOCATION 47

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	1.8	0	0
NE	.5	1.5	0	0
ENE	.7	2.0	3	3
E	1.0	2.4	11	6
ESE	.9	1.8	0	0
SE	.5	1.5	0	0
SSE	.6	2.0	0	0
S	.8	1.9	0	0
SSW	.9	2.3	1	2
SW	1.0	2.4	42	44
WSW	.8	2.3	6	7
W	.5	2.2	3	2
WNW	.5	1.9	4	3
NW	.6	1.6	2	3
NNW	1.1	2.1	27	26
N	1.0	2.1	1	3

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.3	4	2
NE	.8	1.9	3	2
ENE	.7	1.9	2	2
E	.9	2.7	7	4
ESE	.8	1.9	0	0
SE	.9	2.0	0	0
SSE	.9	2.1	0	0
S	1.2	2.7	18	14
SSW	1.2	2.7	8	7
SW	1.0	2.8	48	49
WSW	.8	2.1	4	4
W	.5	1.9	1	0
WNW	.5	1.4	0	0
NW	.6	1.5	0	1
NNW	.7	1.8	2	5
N	1.4	2.3	5	9

LOCATION 49

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.0	0	0
NE	.6	2.1	5	3
ENE	.7	2.0	2	2
E	.9	2.3	5	3
ESE	1.0	2.4	4	4
SE	.7	2.2	0	0
SSE	.7	2.0	0	0
S	.7	2.0	0	0
SSW	.6	2.1	0	0
SW	.7	2.3	8	13
WSW	.8	2.4	7	9
W	.7	2.0	6	5
WNW	.5	1.9	4	3
NW	.9	2.1	37	33
NNW	.9	2.1	20	21
N	1.0	2.1	0	2

LOCATION 50

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.2	0	0
NE	.9	2.2	5	4
ENE	1.3	3.0	37	27
E	.7	1.8	0	0
ESE	.8	2.4	1	1
SE	.7	1.9	0	0
SSE	.5	1.8	0	0
S	.9	2.2	2	3
SSW	1.0	1.8	0	0
SW	1.0	2.0	4	9
WSW	1.0	2.3	11	14
W	.8	1.7	2	2
WNW	.7	1.6	1	1
NW	.9	2.2	23	24
NNW	.9	2.1	10	14
N	.8	1.8	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.4	2.4	0	0
NE	1.2	2.4	1	1
ENE	1.0	2.7	2	2
E	1.5	3.1	7	4
ESE	2.3	3.7	36	25
SE	1.9	3.4	0	1
SSE	1.7	3.5	0	1
S	1.7	3.2	5	4
SSW	1.1	2.5	0	0
SW	1.4	3.0	9	13
WSW	1.9	3.4	20	24
W	1.1	2.2	1	0
WNW	1.0	2.0	0	0
NW	1.3	2.3	7	9
NNW	1.6	2.5	10	12
N	1.8	2.8	1	3

LOCATION 52

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.6	3.3	1	1
NE	1.4	2.8	2	1
ENE	.9	2.5	0	0
E	.7	2.3	0	0
ESE	.9	2.0	0	0
SE	.6	1.8	0	0
SSE	.5	1.6	0	0
S	.6	1.7	0	0
SSW	.7	2.5	0	0
SW	2.0	3.6	32	35
WSW	1.4	3.3	3	3
W	.9	2.5	0	0
WNW	1.5	3.2	19	15
NW	1.5	3.3	14	15
NNW	1.9	3.6	30	26
N	1.8	3.4	0	2

TABLE E-30
EFFECTIVE WIND SPEED RATIOS

LOCATION 46

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.5	1.9	0	0
NE	.7	2.0	0	0
ENE	.8	2.6	0	1
E	1.0	2.7	1	1
ESE	1.2	2.1	4	4
SE	.8	1.8	0	0
SSE	.7	2.2	0	0
S	1.0	1.9	0	0
SSW	.7	1.9	0	0
SW	1.1	2.5	9	15
WSW	1.3	3.1	12	16
W	.8	2.1	0	0
WNW	1.3	3.0	73	62
NW	.7	2.5	0	1
NNW	.7	1.7	0	0
N	.7	2.3	0	0

LOCATION 47

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	1.8	0	0
NE	.5	1.5	0	0
ENE	.7	2.0	1	1
E	1.0	2.4	7	4
ESE	.9	1.8	3	3
SE	.5	1.5	0	0
SSE	.6	2.0	0	0
S	.8	1.9	0	1
SSW	.9	2.3	0	1
SW	1.0	2.4	26	33
WSW	.8	2.3	1	1
W	.5	2.2	0	0
WNW	.5	1.9	0	0
NW	.6	1.6	0	1
NNW	1.1	2.1	60	49
N	1.0	2.1	1	5

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.3	8	5
NE	.8	1.9	2	2
ENE	.7	1.9	0	1
E	.9	2.7	2	1
ESE	.8	1.9	0	0
SE	.9	2.0	0	0
SSE	.9	2.1	0	0
S	1.2	2.7	20	16
SSW	1.2	2.7	11	9
SW	1.0	2.8	34	38
WSW	.8	2.1	1	1
W	.5	1.9	0	0
WNW	.5	1.4	0	0
NW	.6	1.5	0	1
NNW	.7	1.8	1	2
N	1.4	2.3	20	24

LOCATION 49

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.0	0	0
NE	.6	2.1	0	0
ENE	.7	2.0	1	1
E	.9	2.3	4	2
ESE	1.0	2.4	5	5
SE	.7	2.2	0	0
SSE	.7	2.0	0	0
S	.7	2.0	0	0
SSW	.6	2.1	0	0
SW	.7	2.3	2	6
WSW	.8	2.4	2	2
W	.7	2.0	2	2
WNW	.5	1.9	0	0
NW	.9	2.1	57	49
NNW	.8	2.1	23	25
N	1.0	2.1	1	5

LOCATION 50

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.2	0	0
NE	.9	2.2	4	2
ENE	1.3	3.0	31	22
E	.7	1.8	0	0
ESE	.8	2.4	0	0
SE	.7	1.9	0	0
SSE	.5	1.8	0	0
S	.9	2.2	1	1
SSW	1.0	1.8	1	1
SW	1.0	2.0	18	24
WSW	1.0	2.3	7	8
W	.8	1.7	3	2
WNW	.7	1.6	1	1
NW	.9	2.2	27	26
NNW	.9	2.1	7	11
N	.8	1.8	0	1

LOCATION 51

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.4	2.4	0	0
NE	1.2	2.4	1	0
ENE	1.0	2.7	0	0
E	1.5	3.1	3	1
ESE	2.3	3.7	46	33
SE	1.9	3.4	0	1
SSE	1.7	3.5	0	1
S	1.7	3.2	5	4
SSW	1.1	2.5	0	0
SW	1.4	3.0	3	7
WSW	1.9	3.4	19	23
W	1.1	2.2	0	0
WNW	1.0	2.0	0	0
NW	1.3	2.3	7	9
NNW	1.6	2.5	13	16
N	1.8	2.8	2	5

LOCATION 52

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.6	3.3	1	1
NE	1.4	2.8	2	1
ENE	.9	2.5	0	0
E	.7	2.3	0	0
ESE	.9	2.0	0	0
SE	.6	1.8	0	0
SSE	.5	1.6	0	0
S	.6	1.7	0	0
SSW	.7	2.5	0	0
SW	2.0	3.6	41	43
WSW	1.4	3.3	0	0
W	.9	2.5	0	0
WNW	1.5	3.2	13	11
NW	1.5	3.3	10	12
NNW	1.9	3.6	32	29
N	1.8	3.4	1	4

TABLE E-29
MEAN WIND SPEED RATIOS

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.1	0	0
NE	.1	1.1	0	0
ENE	.5	1.9	0	0
E	.6	1.7	0	0
ESE	.9	1.8	0	0
SE	1.1	2.1	0	0
SSE	1.4	2.7	0	0
S	1.8	3.3	16	9
SSW	1.6	3.0	2	2
SW	1.2	2.8	2	3
WSW	2.3	3.7	69	78
W	.6	2.0	0	0
WNW	.7	3.0	0	0
NW	1.3	3.7	10	8
NNW	.3	1.8	0	0
N	.1	1.3	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.7	0	0
NE	.7	1.7	0	0
ENE	.8	2.0	0	0
E	.7	2.2	0	0
ESE	.7	1.7	0	0
SE	.6	1.7	0	0
SSE	1.0	2.3	0	0
S	1.2	2.9	3	3
SSW	1.6	3.5	28	19
SW	1.1	2.9	10	16
WSW	1.3	3.0	13	17
W	1.2	2.7	37	29
WNW	.7	2.1	0	0
NW	.8	2.1	2	4
NNW	1.0	2.0	7	11
N	1.1	2.3	0	1

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.9	0	0
NE	.7	2.2	0	0
ENE	1.0	2.2	0	1
E	1.4	2.5	5	3
ESE	1.4	2.5	4	4
SE	1.1	2.2	0	0
SSE	1.2	2.5	0	0
S	1.4	2.8	3	3
SSW	.9	2.3	0	0
SW	1.3	3.0	11	16
WSW	1.4	3.3	6	7
W	1.5	3.0	53	43
WNW	.9	2.2	1	1
NW	1.1	2.3	6	8
NNW	1.2	2.4	9	13
N	1.2	2.5	0	1

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.0	0	0
NE	.9	2.3	0	0
ENE	1.0	2.0	0	1
E	1.3	2.3	4	2
ESE	1.5	2.5	10	8
SE	1.3	2.5	0	0
SSE	1.1	2.4	0	0
S	1.1	2.4	0	0
SSW	1.0	2.7	0	0
SW	1.1	3.0	3	7
WSW	1.7	3.5	26	34
W	1.4	2.9	25	19
WNW	1.2	2.7	28	22
NW	1.0	2.4	3	5
NNW	.9	2.4	0	1
N	.7	1.7	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.5	0	0
NE	.6	1.7	0	0
ENE	.8	1.7	0	0
E	.9	2.4	0	0
ESE	1.1	2.6	0	1
SE	.9	2.2	0	0
SSE	.5	2.0	0	0
S	.6	1.9	0	0
SSW	1.0	2.6	0	0
SW	1.4	3.0	29	34
WSW	1.3	2.9	7	9
W	1.4	3.1	49	40
WNW	1.0	2.4	3	3
NW	1.1	2.3	12	14
NNW	.6	1.5	0	0
N	.7	1.5	0	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	1.9	0	0
NE	1.0	2.1	1	1
ENE	1.1	2.4	2	2
E	1.3	2.8	3	2
ESE	1.5	2.9	11	9
SE	1.6	2.8	0	1
SSE	1.3	3.0	0	0
S	1.5	3.1	7	6
SSW	1.4	2.9	1	2
SW	1.1	2.6	3	6
WSW	1.6	3.6	21	26
W	1.2	3.2	6	5
WNW	1.3	2.8	38	30
NW	1.0	2.2	4	5
NNW	1.1	2.2	3	5
N	.9	2.4	0	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.4	0	0
NE	1.0	2.7	0	0
ENE	.9	2.6	0	0
E	1.1	2.4	0	0
ESE	1.5	2.8	3	3
SE	1.4	2.8	0	0
SSE	1.3	3.1	0	0
S	1.6	3.1	11	9
SSW	1.7	3.2	6	6
SW	1.4	3.1	16	21
WSW	1.4	3.3	4	4
W	1.3	3.2	8	6
WNW	1.3	2.6	22	18
NW	1.2	2.6	10	12
NNW	1.4	2.9	18	20
N	.9	2.6	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.6	0	0
NE	.3	1.7	0	0
ENE	.4	1.7	0	0
E	.2	1.5	0	0
ESE	.6	2.1	0	0
SE	.9	2.3	0	0
SSE	.1	1.2	0	0
S	.4	2.2	0	0
SSW	.8	2.5	0	0
SW	.8	2.9	1	3
WSW	1.2	3.0	24	31
W	.7	1.9	0	0
WNW	1.0	2.5	43	35
NW	1.0	2.6	32	30
NNW	.6	2.0	0	0
N	.5	1.6	0	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.1	0	0
NE	1.0	2.1	0	0
ENE	.6	2.3	0	0
E	1.1	2.5	1	0
ESE	1.3	2.6	1	1
SE	1.7	3.1	1	2
SSE	1.0	3.0	0	0
S	.8	2.4	0	0
SSW	1.2	2.6	0	0
SW	1.3	3.0	11	17
WSW	1.4	3.0	7	8
W	1.3	2.6	13	10
WNW	1.3	2.7	42	34
NW	1.2	2.5	23	22
NNW	1.1	2.5	2	5
N	.8	2.1	0	0

TABLE E-31
MEAN WIND SPEED RATIOS

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.1	0	0
NE	.1	1.1	0	0
ENE	.5	1.9	0	0
E	.6	1.7	0	0
ESE	.9	1.8	0	0
SE	1.1	2.1	0	0
SSE	1.4	2.7	0	0
S	1.8	3.3	8	6
SSW	1.6	3.0	1	1
SW	1.2	2.8	4	8
WSW	2.3	3.7	30	38
W	.6	2.0	0	0
WNW	.7	3.0	3	2
NW	1.3	3.7	55	44
NNW	.3	1.8	0	0
N	.1	1.3	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.7	0	0
NE	.7	1.7	0	0
ENE	.8	2.0	0	0
E	.7	2.2	0	0
ESE	.7	1.7	0	0
SE	.6	1.7	0	0
SSE	1.0	2.3	0	0
S	1.2	2.9	7	6
SSW	1.6	3.5	21	15
SW	1.1	2.9	20	26
WSW	1.3	3.0	12	15
W	1.2	2.7	31	25
WNW	.7	2.1	2	2
NW	.8	2.1	4	6
NNW	1.0	2.0	2	4
N	1.1	2.3	0	0

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.9	0	0
NE	.7	2.2	0	0
ENE	1.0	2.2	0	1
E	1.4	2.5	5	3
ESE	1.4	2.5	4	4
SE	1.1	2.2	0	0
SSE	1.2	2.5	0	0
S	1.4	2.8	3	3
SSW	.9	2.3	0	0
SW	1.3	3.0	25	29
WSW	1.4	3.3	14	17
W	1.5	3.0	43	32
WNW	.9	2.2	2	2
NW	1.1	2.3	5	7
NNW	1.2	2.4	4	7
N	1.2	2.5	0	1

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.0	0	0
NE	.9	2.3	0	0
ENE	1.0	2.0	0	0
E	1.3	2.3	1	1
ESE	1.5	2.5	1	1
SE	1.3	2.5	0	0
SSE	1.1	2.4	0	0
S	1.1	2.4	0	0
SSW	1.0	2.7	0	0
SW	1.1	3.0	10	15
WSW	1.7	3.5	22	28
W	1.4	2.9	35	26
WNW	1.2	2.7	26	21
NW	1.0	2.4	4	6
NNW	.9	2.4	0	2
N	.7	1.7	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.5	0	0
NE	.6	1.7	0	0
ENE	.8	1.7	0	0
E	.9	2.4	0	0
ESE	1.1	2.6	0	1
SE	.9	2.2	0	0
SSE	.5	2.0	0	0
S	.6	1.9	0	0
SSW	1.0	2.6	0	0
SW	1.4	3.0	26	32
WSW	1.3	2.9	7	9
W	1.4	3.1	53	43
WNW	1.0	2.4	7	6
NW	1.1	2.3	6	9
NNW	.6	1.5	0	0
N	.7	1.5	0	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	1.9	0	0
NE	1.0	2.1	1	0
ENE	1.1	2.4	2	2
E	1.3	2.8	2	1
ESE	1.5	2.9	5	4
SE	1.6	2.8	0	0
SSE	1.3	3.0	0	0
S	1.5	3.1	7	5
SSW	1.4	2.9	1	2
SW	1.1	2.6	5	9
WSW	1.6	3.6	24	31
W	1.2	3.2	24	18
WNW	1.3	2.6	25	20
NW	1.0	2.2	3	5
NNW	1.1	2.2	2	4
N	.9	2.4	0	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.4	0	0
NE	1.0	2.7	2	1
ENE	.9	2.6	1	1
E	1.1	2.4	0	0
ESE	1.5	2.8	1	1
SE	1.4	2.8	0	0
SSE	1.3	3.1	0	0
S	1.6	3.1	6	5
SSW	1.7	3.2	3	4
SW	1.4	3.1	23	27
WSW	1.4	3.3	9	10
W	1.3	3.2	20	15
WNW	1.3	2.6	12	10
NW	1.2	2.6	8	10
NNW	1.4	2.9	14	16
N	.8	2.8	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.6	0	0
NE	.3	1.7	0	0
ENE	.4	1.7	0	0
E	.2	1.5	0	0
ESE	.6	2.1	0	0
SE	.9	2.3	0	0
SSE	.1	1.2	0	0
S	.4	2.2	0	0
SSW	.8	2.5	0	0
SW	.8	2.9	8	13
WSW	1.2	3.0	19	25
W	.7	1.9	1	1
WNW	1.0	2.5	36	29
NW	1.0	2.6	36	32
NNW	.6	2.0	0	1
N	.5	1.6	0	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.1	0	0
NE	1.0	2.1	0	0
ENE	.6	2.3	0	0
E	1.1	2.5	1	0
ESE	1.3	2.6	1	1
SE	1.7	3.1	0	1
SSE	1.0	3.0	0	0
S	.8	2.4	0	0
SSW	1.2	2.6	0	0
SW	1.3	3.0	18	23
WSW	1.4	3.0	8	9
W	1.3	2.6	16	12
WNW	1.3	2.7	38	30
NW	1.2	2.5	15	16
NNW	1.1	2.5	3	6
N	.8	2.1	0	0

TABLE E-32
EFFECTIVE WIND SPEED RATIOS

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.4	0	0
NE	1.3	2.9	2	2
ENE	1.3	3.1	3	3
E	1.5	2.8	4	2
ESE	1.8	3.0	12	10
SE	1.5	2.7	0	0
SSE	1.5	3.1	0	0
S	1.7	3.3	8	7
SSW	1.4	2.9	0	0
SW	1.2	2.8	2	5
WSW	1.6	3.8	9	12
W	1.5	3.6	19	15
WNW	1.3	2.8	17	15
NW	1.2	2.5	4	7
NNW	1.5	3.2	19	21
N	1.0	2.2	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.3	0	0
NE	.8	2.1	0	0
ENE	1.0	2.4	0	0
E	.9	2.5	0	0
ESE	.6	1.6	0	0
SE	.6	1.5	0	0
SSE	.6	1.8	0	0
S	.6	1.9	0	0
SSW	.8	1.7	0	0
SW	.1	1.7	0	0
WSW	.7	1.7	0	0
W	1.4	2.3	21	21
WNW	1.3	2.6	31	31
NW	1.5	2.3	49	48
NNW	.8	1.9	0	0
N	.8	1.9	0	0

LOCATION 64

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.4	0	0
NE	.6	1.4	0	0
ENE	.5	1.4	0	0
E	1.0	2.3	4	3
ESE	1.3	2.3	36	27
SE	.8	1.6	0	0
SSE	.4	1.5	0	0
S	.6	1.6	0	0
SSW	.5	1.5	0	0
SW	.7	1.7	1	4
WSW	1.2	2.4	24	32
W	.9	2.2	9	8
WNW	.8	2.1	18	15
NW	.6	2.1	0	1
NNW	.8	2.1	7	11
N	.8	1.5	0	0

LOCATION 65

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.1	3	3
NE	1.2	2.0	11	8
ENE	.7	1.5	0	0
E	.4	1.4	0	0
ESE	.8	1.7	0	0
SE	.5	1.4	0	0
SSE	.1	1.2	0	0
S	.3	1.4	0	0
SSW	.8	1.7	0	0
SW	.6	1.5	0	0
WSW	.9	2.0	0	1
W	1.5	2.4	83	80
WNW	.7	1.8	0	0
NW	.7	2.1	0	0
NNW	1.0	1.8	3	8
N	1.0	1.9	0	1

LOCATION 66

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.2	2	1
NE	.6	1.6	0	0
ENE	.4	1.3	0	0
E	.8	1.9	0	0
ESE	1.5	2.5	9	8
SE	1.3	2.2	0	0
SSE	.7	1.8	0	0
S	.4	1.6	0	0
SSW	.9	1.9	0	0
SW	1.2	2.2	5	10
WSW	.8	1.9	0	0
W	1.4	2.5	31	26
WNW	1.0	1.9	3	4
NW	1.0	2.1	4	7
NNW	1.5	2.3	45	40
N	1.4	2.2	1	4

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.5	2.4	2	1
NE	.9	1.9	0	0
ENE	.6	1.6	0	0
E	.7	1.6	0	0
ESE	1.3	2.2	0	1
SE	1.1	2.1	0	0
SSE	1.0	2.0	0	0
S	.7	1.9	0	0
SSW	1.3	2.2	0	0
SW	1.2	2.0	3	6
WSW	.7	1.8	0	0
W	1.5	2.5	24	20
WNW	.9	2.0	0	0
NW	1.3	2.4	15	17
NNW	1.7	2.7	54	47
N	1.6	2.4	4	7

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	1.7	0	0
NE	.3	1.3	0	0
ENE	.5	1.4	0	0
E	1.1	2.3	4	2
ESE	1.5	2.7	25	20
SE	1.2	2.2	0	0
SSE	.8	1.9	0	0
S	.1	1.6	0	0
SSW	.6	1.9	0	0
SW	1.2	2.3	22	29
WSW	.6	1.7	0	0
W	.9	2.2	3	3
WNW	.7	1.7	0	0
NW	.8	1.9	1	3
NNW	1.3	2.1	44	40
N	1.1	1.8	0	2

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.5	0	0
NE	.6	1.4	0	0
ENE	.6	1.5	0	0
E	1.0	2.2	3	2
ESE	1.4	2.7	34	27
SE	1.1	2.3	0	0
SSE	.7	1.9	0	0
S	.6	1.8	0	0
SSW	.9	2.1	0	0
SW	1.1	2.3	34	40
WSW	.8	1.9	0	0
W	1.0	2.0	17	14
WNW	.6	1.5	0	0
NW	.5	1.6	0	0
NNW	1.0	1.7	12	16
N	.7	1.6	0	0

LOCATION 70

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.0	0	0
NE	1.0	1.9	1	1
ENE	.8	1.8	0	0
E	.7	1.7	0	0
ESE	1.2	2.1	1	1
SE	1.1	2.0	0	0
SSE	.8	1.8	0	0
S	.6	1.8	0	0
SSW	1.2	2.3	0	1
SW	1.1	2.1	5	10
WSW	.6	1.5	0	0
W	1.2	2.2	15	14
WNW	.6	1.6	0	0
NW	1.1	2.1	8	12
NNW	1.5	2.4	66	62
N	1.3	2.1	1	3

TABLE E-33
MEAN WIND SPEED RATIOS

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.4	0	0
NE	1.3	2.9	2	2
ENE	1.3	3.1	4	4
E	1.5	2.8	2	1
ESE	1.8	3.0	2	2
SE	1.5	2.7	0	0
SSE	1.5	3.1	0	0
S	1.7	3.3	4	4
SSW	1.4	2.9	0	0
SW	1.2	2.8	3	6
WSW	1.6	3.8	15	19
W	1.5	3.6	41	32
WNW	1.3	2.8	12	10
NW	1.2	2.5	3	6
NNW	1.5	3.2	10	14
N	1.0	2.2	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.3	0	0
NE	.8	2.1	0	0
ENE	1.0	2.4	2	3
E	.9	2.5	1	1
ESE	.6	1.6	0	0
SE	.6	1.5	0	0
SSE	.6	1.8	0	0
S	.6	1.9	0	0
SSW	.8	1.7	0	0
SW	.1	1.7	0	0
WSW	.7	1.7	0	0
W	1.4	2.3	19	18
WNW	1.3	2.6	30	29
NW	1.5	2.3	47	45
NNW	.8	1.9	1	3
N	.8	1.9	0	0

LOCATION 64

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.4	0	0
NE	.6	1.4	0	0
ENE	.5	1.4	0	0
E	1.0	2.3	6	4
ESE	1.3	2.3	12	10
SE	.8	1.8	0	0
SSE	.4	1.5	0	0
S	.6	1.6	0	0
SSW	.5	1.5	0	0
SW	.7	1.7	1	3
WSW	1.2	2.4	15	20
W	.9	2.2	20	16
WNW	.8	2.1	24	21
NW	.6	2.1	13	15
NNW	.8	2.1	9	13
N	.8	1.5	0	0

LOCATION 65

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.1	2	1
NE	1.2	2.0	7	5
ENE	.7	1.5	0	0
E	.4	1.4	0	0
ESE	.8	1.7	0	0
SE	.5	1.4	0	0
SSE	.1	1.2	0	0
S	.3	1.4	0	0
SSW	.8	1.7	0	0
SW	.6	1.5	0	0
WSW	.9	2.0	1	2
W	1.5	2.4	74	66
WNW	.7	1.8	5	5
NW	.7	2.1	7	11
NNW	1.0	1.8	4	8
N	1.0	1.9	0	1

LOCATION 66

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.2	2	1
NE	.6	1.6	0	0
ENE	.4	1.3	0	0
E	.8	1.9	0	0
ESE	1.5	2.5	4	4
SE	1.3	2.2	0	0
SSE	.7	1.8	0	0
S	.4	1.6	0	0
SSW	.9	1.9	0	0
SW	1.2	2.2	8	13
WSW	.8	1.9	0	0
W	1.4	2.5	43	35
WNW	1.0	1.9	5	5
NW	1.0	2.1	13	15
NNW	1.5	2.3	25	25
N	1.4	2.2	0	2

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.5	2.4	2	2
NE	.9	1.9	0	0
ENE	.6	1.6	0	0
E	.7	1.6	0	0
ESE	1.3	2.2	0	0
SE	1.1	2.1	0	0
SSE	1.0	2.0	0	0
S	.7	1.9	0	0
SSW	1.3	2.2	0	1
SW	1.2	2.0	2	6
WSW	.7	1.8	0	0
W	1.5	2.5	29	24
WNW	.9	2.0	2	2
NW	1.3	2.4	25	25
NNW	1.7	2.7	38	36
N	1.6	2.4	1	4

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	1.7	0	0
NE	.3	1.3	0	0
ENE	.5	1.4	0	0
E	1.1	2.3	6	3
ESE	1.5	2.7	23	18
SE	1.2	2.2	0	0
SSE	.8	1.9	0	0
S	.1	1.6	0	0
SSW	.6	1.9	0	0
SW	1.2	2.3	23	29
WSW	.6	1.7	0	0
W	.9	2.2	16	12
WNW	.7	1.7	1	1
NW	.8	1.9	10	13
NNW	1.3	2.1	21	22
N	1.1	1.8	0	1

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.5	0	0
NE	.6	1.4	0	0
ENE	.6	1.5	0	0
E	1.0	2.2	5	3
ESE	1.4	2.7	33	26
SE	1.1	2.3	0	1
SSE	.7	1.9	0	0
S	.6	1.8	0	0
SSW	.9	2.1	1	1
SW	1.1	2.5	39	44
WSW	.8	1.9	1	1
W	1.0	2.0	19	16
WNW	.6	1.5	0	0
NW	.5	1.6	0	1
NNW	1.0	1.7	3	6
N	.7	1.6	0	0

LOCATION 70

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.0	0	0
NE	1.0	1.9	1	1
ENE	.8	1.8	0	0
E	.7	1.7	0	0
ESE	1.2	2.1	1	1
SE	1.1	2.0	0	0
SSE	.8	1.8	0	0
S	.6	1.8	0	0
SSW	1.2	2.3	1	2
SW	1.1	2.1	7	12
WSW	.6	1.5	0	0
W	1.2	2.2	23	19
WNW	.6	1.6	0	0
NW	1.1	2.1	20	21
NNW	1.5	2.4	46	41
N	1.3	2.1	0	2

TABLE E-34
EFFECTIVE WIND SPEED RATIOS

LOCATION 71				
WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	1.9	1	1
NE	1.1	1.9	8	5
ENE	.9	1.6	1	1
E	.6	1.8	0	0
ESE	1.1	2.3	4	4
SE	1.0	2.0	0	0
SSE	.8	1.9	0	0
S	.8	2.2	0	0
SSW	1.3	2.8	6	6
SW	1.1	2.4	20	26
WSW	.6	1.6	0	0
W	1.0	1.8	8	6
WNW	.3	1.3	0	0
NW	.7	1.7	0	1
NNW	1.3	2.0	53	45
N	1.1	1.8	1	4

LOCATION 0				
WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0				
WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-35
MEAN WIND SPEED RATIOS

LOCATION 71				
WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	1.9	1	0
NE	1.1	1.9	5	3
ENE	.9	1.6	1	1
E	.6	1.8	0	0
ESE	1.1	2.3	5	5
SE	1.0	2.0	0	0
SSE	.8	1.9	0	0
S	.8	2.2	2	2
SSW	1.3	2.8	14	11
SW	1.1	2.4	35	39
WSW	.6	1.6	0	0
W	1.0	1.8	7	5
WNW	.3	1.3	0	0
NW	.7	1.7	5	7
NNW	1.3	2.0	27	26
N	1.1	1.8	0	1

LOCATION 0				
WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0				
WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-36
EFFECTIVE WIND SPEED RATIOS

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	1.9	0	0
NE	.9	2.0	0	0
ENE	1.1	2.5	0	1
E	1.6	3.1	0	1
ESE	2.0	3.3	5	4
SE	1.4	2.7	0	0
SSE	1.1	2.5	0	0
S	.9	2.6	0	0
SSW	1.0	2.3	0	0
SW	1.4	2.9	2	1
WSW	2.6	4.1	90	73
W	1.7	3.3	1	15
WNW	1.3	2.8	1	2
NW	1.4	2.5	1	2
NNW	.6	1.6	0	0
N	.8	1.9	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.2	0	0
NE	1.0	2.4	9	4
ENE	1.1	2.5	1	9
E	1.0	2.1	0	1
ESE	1.4	2.5	29	16
SE	1.0	2.1	0	0
SSE	.7	1.9	0	0
S	.2	2.0	0	0
SSW	1.0	2.8	0	0
SW	.9	2.8	7	3
WSW	1.1	2.9	26	7
W	1.2	3.0	18	51
WNW	.9	3.0	8	7
NW	.8	2.5	1	1
NNW	.6	2.0	0	0
N	.7	1.9	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.2	0	0
NE	.6	1.9	0	0
ENE	.4	1.7	0	0
E	.6	1.7	0	0
ESE	.7	1.8	0	0
SE	.8	1.8	0	0
SSE	.4	1.9	0	0
S	.6	2.1	0	0
SSW	.7	2.1	0	0
SW	1.0	2.4	0	0
WSW	2.5	3.9	96	81
W	1.6	2.9	0	11
WNW	1.4	2.8	3	6
NW	1.3	2.5	1	2
NNW	.7	2.1	0	0
N	.4	1.7	0	0

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.8	0	0
NE	.7	2.0	5	3
ENE	.7	2.0	0	5
E	.8	1.9	0	1
ESE	.9	2.0	4	3
SE	.7	1.8	0	0
SSE	.5	1.6	0	0
S	.8	2.3	1	2
SSW	.9	2.4	2	4
SW	.7	1.8	7	4
WSW	1.1	2.2	61	38
W	.7	1.6	0	2
WNW	.8	1.7	16	35
NW	.6	1.6	1	2
NNW	.4	1.8	0	0
N	.5	1.7	0	0

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	0	0
NE	.6	1.7	0	0
ENE	.5	1.5	0	0
E	.8	1.8	0	0
ESE	1.0	2.2	0	0
SE	.8	1.9	0	0
SSE	.4	1.8	0	0
S	.6	1.8	0	0
SSW	.5	1.7	0	0
SW	.9	2.1	0	0
WSW	1.9	3.7	87	67
W	1.2	2.5	0	7
WNW	1.2	2.7	10	23
NW	1.1	2.2	1	2
NNW	.9	2.2	1	0
N	.6	1.9	0	0

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	1.3	0	0
NE	.5	1.3	3	1
ENE	.4	1.4	0	0
E	.8	1.9	0	6
ESE	.9	2.5	35	22
SE	.6	1.9	0	0
SSE	.3	2.2	0	0
S	.5	1.8	0	0
SSW	.5	1.7	0	0
SW	.6	1.5	11	6
WSW	.7	1.5	20	6
W	.6	1.5	0	4
WNW	.6	1.6	15	24
NW	.7	1.5	17	32
NNW	.4	1.3	0	0
N	.3	1.3	0	0

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.8	0	1
NE	.5	1.5	1	0
ENE	.3	1.6	0	0
E	.9	2.5	0	3
ESE	.8	2.0	0	0
SE	.7	1.9	0	0
SSE	.1	1.8	0	0
S	.6	2.0	0	0
SSW	.8	2.0	0	1
SW	.7	1.7	3	2
WSW	1.2	2.4	85	63
W	.8	1.8	1	18
WNW	.6	2.1	2	2
NW	.7	1.6	2	4
NNW	.7	1.6	3	1
N	.6	1.4	0	0

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.3	0	1
NE	.5	1.5	0	0
ENE	.1	1.4	0	0
E	.6	1.6	0	0
ESE	1.0	2.4	20	19
SE	.7	2.0	0	0
SSE	.5	2.0	0	0
S	.5	1.8	0	0
SSW	1.0	2.0	16	11
SW	.5	1.4	0	0
WSW	1.0	2.3	57	43
W	.8	2.1	1	23
WNW	.5	1.9	0	0
NW	.6	1.8	0	1
NNW	.6	2.0	2	1
N	.6	1.6	0	1

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.1	1	2
NE	.5	1.9	4	2
ENE	.6	1.7	1	8
E	.4	1.6	0	0
ESE	.9	2.3	39	24
SE	.1	1.7	0	0
SSE	.4	1.4	0	0
S	.2	1.5	0	0
SSW	.7	1.6	1	2
SW	.6	1.5	17	8
WSW	.6	1.5	7	1
W	.1	1.4	0	0
WNW	.6	1.6	11	16
NW	.7	1.5	18	34
NNW	.4	1.5	1	0
N	.6	1.8	0	3

TABLE E-37
MEAN WIND SPEED RATIOS

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	1.9	0	0
NE	.9	2.0	0	0
ENE	1.1	2.5	0	1
E	1.6	3.1	0	2
ESE	2.0	3.3	4	2
SE	1.4	2.7	0	0
SSE	1.1	2.5	0	0
S	.9	2.6	0	0
SSW	1.0	2.3	0	0
SW	1.4	2.9	7	4
WSW	2.6	4.1	77	51
W	1.7	3.3	5	31
WNW	1.3	2.8	5	6
NW	1.4	2.5	2	3
NNW	.6	1.6	0	0
N	.8	1.9	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.2	0	0
NE	1.0	2.4	7	3
ENE	1.1	2.5	1	6
E	1.0	2.1	0	0
ESE	1.4	2.5	3	1
SE	1.0	2.1	0	0
SSE	.7	1.9	0	0
S	.2	2.0	0	0
SSW	1.0	2.8	0	1
SW	.9	2.8	18	6
WSW	1.1	2.9	22	4
W	1.2	3.0	22	48
WNW	.9	3.0	22	28
NW	.8	2.5	3	2
NNW	.6	2.0	2	0
N	.7	1.9	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.2	0	0
NE	.6	1.9	0	0
ENE	.4	1.7	0	0
E	.6	1.7	0	0
ESE	.7	1.8	0	0
SE	.8	1.8	0	0
SSE	.4	1.9	0	0
S	.6	2.1	0	0
SSW	.7	2.1	0	0
SW	1.0	2.4	1	0
WSW	2.5	3.9	85	57
W	1.6	2.9	2	19
WNW	1.4	2.8	11	20
NW	1.3	2.5	2	3
NNW	.7	2.1	0	0
N	.4	1.7	0	0

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.8	0	0
NE	.7	2.0	9	6
ENE	.7	2.0	1	10
E	.8	1.9	0	2
ESE	.9	2.0	5	4
SE	.7	1.8	0	0
SSE	.5	1.6	0	0
S	.8	2.3	6	12
SSW	.9	2.4	10	8
SW	.7	1.8	10	7
WSW	1.1	2.2	44	26
W	.7	1.6	0	2
WNW	.8	1.7	9	17
NW	.6	1.6	1	2
NNW	.4	1.8	4	2
N	.5	1.7	0	1

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	0	0
NE	.6	1.7	0	0
ENE	.5	1.5	0	0
E	.8	1.8	0	0
ESE	1.0	2.2	0	0
SE	.8	1.9	0	0
SSE	.4	1.8	0	0
S	.6	1.8	0	0
SSW	.5	1.7	0	0
SW	.8	2.1	1	1
WSW	1.9	3.7	81	56
W	1.2	2.5	0	9
WNW	1.2	2.7	14	31
NW	1.1	2.2	1	2
NNW	.9	2.2	2	1
N	.6	1.9	0	0

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	1.3	0	0
NE	.5	1.3	1	0
ENE	.4	1.4	0	1
E	.8	1.9	0	5
ESE	.9	2.5	55	38
SE	.6	1.9	0	0
SSE	.3	2.2	0	0
S	.5	1.8	0	1
SSW	.5	1.7	0	1
SW	.6	1.5	9	4
WSW	.7	1.5	11	3
W	.6	1.5	0	3
WNW	.6	1.6	17	31
NW	.7	1.5	6	11
NNW	.4	1.3	0	0
N	.3	1.3	0	0

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.8	1	1
NE	.5	1.5	2	0
ENE	.3	1.6	0	2
E	.9	2.5	1	12
ESE	.8	2.0	7	4
SE	.7	1.9	0	0
SSE	.1	1.8	0	0
S	.6	2.0	1	2
SSW	.8	2.0	1	2
SW	.7	1.7	6	3
WSW	1.2	2.4	57	30
W	.8	1.8	1	12
WNW	.6	2.1	16	28
NW	.7	1.6	2	3
NNW	.7	1.6	4	1
N	.6	1.4	0	0

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.3	3	4
NE	.1	1.5	1	0
ENE	.1	1.4	0	0
E	.6	1.6	0	0
ESE	1.0	2.4	17	11
SE	.7	2.0	0	0
SSE	.5	2.0	0	0
S	.5	1.8	0	0
SSW	1.0	2.0	3	4
SW	.5	1.4	0	0
WSW	1.0	2.3	45	22
W	.8	2.1	7	35
WNW	.5	1.9	8	12
NW	.6	1.8	3	4
NNW	.6	2.0	11	7
N	.6	1.6	0	0

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.1	7	8
NE	.5	1.9	12	8
ENE	.6	1.7	1	11
E	.4	1.6	0	1
ESE	.9	2.3	44	31
SE	.1	1.7	0	0
SSE	.4	1.4	0	0
S	.2	1.5	0	0
SSW	.7	1.6	0	1
SW	.6	1.5	11	6
WSW	.6	1.5	7	1
W	.1	1.4	0	0
WNW	.6	1.6	11	18
NW	.7	1.5	2	3
NNW	.4	1.5	5	2
N	.6	1.8	1	7

TABLE E-38
EFFECTIVE WIND SPEED RATIOS

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.3	6	5
NE	.8	1.7	18	9
ENE	.6	1.6	0	3
E	.4	1.5	0	3
ESE	.4	1.4	0	0
SE	.3	1.6	0	0
SSE	.4	1.5	0	0
S	.5	1.6	0	0
SSW	.7	1.8	0	0
SW	.5	1.3	2	0
WSW	.5	1.8	1	0
W	.7	1.9	4	13
WNW	.7	1.8	27	34
NW	.8	1.8	23	28
NNW	.7	1.8	14	6
N	.6	1.9	0	1

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	2	3
NE	.8	2.3	15	9
ENE	.9	2.0	5	16
E	.6	2.0	0	0
ESE	1.0	2.3	23	13
SE	.8	2.2	0	0
SSE	.8	2.3	0	0
S	1.0	2.4	17	21
SSW	.9	2.4	14	7
SW	.6	1.4	6	3
WSW	.6	1.8	2	0
W	.4	1.7	0	0
WNW	.1	1.6	0	0
NW	.7	1.4	6	10
NNW	.6	1.3	3	1
N	.9	1.8	3	14

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.3	2.1	0	0
NE	.4	2.0	0	0
ENE	.6	2.2	0	4
E	.7	2.3	0	1
ESE	.7	2.0	2	0
SE	.6	1.6	0	0
SSE	.5	1.8	0	0
S	.7	1.8	2	1
SSW	.8	1.9	2	1
SW	.7	1.8	18	4
WSW	.3	1.9	0	0
W	.8	2.6	33	49
WNW	.5	2.5	4	1
NW	.7	2.0	12	8
NNW	.6	1.6	11	3
N	1.0	2.2	15	26

LOCATION 13

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.6	0	0
NE	.4	2.1	0	0
ENE	.6	2.1	0	1
E	.5	2.0	0	0
ESE	.7	1.9	0	0
SE	.1	1.7	0	0
SSE	.1	1.4	0	0
S	.5	1.7	0	0
SSW	.6	1.6	0	0
SW	1.0	2.1	59	29
WSW	.6	1.7	1	0
W	1.0	2.3	25	62
WNW	.6	1.6	1	0
NW	.6	1.5	0	0
NNW	.8	2.0	15	9
N	.7	2.4	0	0

LOCATION 14

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.0	1	0
NE	.5	1.8	2	0
ENE	.7	1.7	2	7
E	.4	1.7	0	0
ESE	.3	1.6	0	0
SE	1.0	2.1	4	1
SSE	.7	1.7	0	0
S	.6	1.6	0	0
SSW	.6	1.6	0	0
SW	.2	1.3	0	0
WSW	.1	1.6	0	0
W	.6	2.2	0	0
WNW	.8	2.1	30	27
NW	.7	1.8	7	4
NNW	.8	1.6	26	12
N	1.2	2.7	30	43

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.5	0	0
NE	.1	1.3	0	0
ENE	.7	1.8	0	1
E	1.2	2.6	0	7
ESE	1.9	3.2	93	80
SE	1.3	2.7	0	1
SSE	.8	2.2	0	0
S	.9	2.6	0	0
SSW	.9	2.3	0	0
SW	.3	1.3	0	0
WSW	.4	1.8	0	0
W	.4	1.7	0	0
WNW	.7	1.6	0	0
NW	1.0	1.7	3	8
NNW	.9	1.7	3	2
N	.7	1.7	0	0

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.3	0	0
NE	.2	1.3	0	0
ENE	.4	1.4	0	0
E	.9	2.2	0	5
ESE	1.2	2.4	53	36
SE	1.1	2.4	2	2
SSE	.9	2.1	0	0
S	.8	2.0	2	4
SSW	.9	2.0	1	2
SW	.4	1.2	0	0
WSW	.3	1.3	0	0
W	.6	1.5	0	0
WNW	.7	1.4	8	10
NW	.8	1.5	10	19
NNW	.9	1.5	21	20
N	.6	1.4	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.4	0	0
NE	.4	1.3	0	0
ENE	.6	1.6	0	1
E	1.0	2.1	0	7
ESE	1.4	2.7	93	74
SE	1.0	2.5	0	1
SSE	.7	2.0	0	0
S	.8	2.3	1	2
SSW	.9	2.3	1	3
SW	.1	1.2	0	0
WSW	.3	1.3	0	0
W	.6	1.5	0	1
WNW	.6	1.4	1	0
NW	.6	1.4	0	1
NNW	.6	1.4	1	0
N	.9	2.1	1	9

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.4	0	0
NE	.3	1.3	0	0
ENE	.6	1.5	0	3
E	.9	2.1	0	6
ESE	1.3	2.6	85	68
SE	1.0	2.3	1	2
SSE	.9	2.0	0	1
S	.7	1.7	0	0
SSW	.8	1.8	0	2
SW	.1	1.2	0	0
WSW	.4	1.2	0	0
W	.6	1.5	0	2
WNW	.7	1.4	6	10
NW	.8	1.5	5	8
NNW	.6	1.4	4	2
N	.6	1.6	0	1

TABLE E-39
MEAN WIND SPEED RATIOS

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.3	9	7
NE	.8	1.7	11	4
ENE	.6	1.6	0	4
E	.1	1.5	0	0
ESE	.4	1.4	0	0
SE	.3	1.6	0	0
SSE	.4	1.5	0	0
S	.5	1.6	0	0
SSW	.7	1.8	1	1
SW	.5	1.3	0	0
WSW	.5	1.8	9	1
W	.7	1.9	8	20
WNW	.7	1.8	30	38
NW	.8	1.8	15	15
NNW	.7	1.8	17	7
N	.6	1.9	0	3

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	2	3
NE	.8	2.3	19	13
ENE	.6	2.0	5	16
E	.6	2.0	0	2
ESE	1.0	2.3	24	16
SE	.8	2.2	0	1
SSE	.8	2.3	1	1
S	1.0	2.4	21	27
SSW	.9	2.4	12	7
SW	.6	1.4	0	0
WSW	.6	1.8	10	2
W	.4	1.7	0	1
WNW	.1	1.6	0	0
NW	.7	1.4	0	0
NNW	.6	1.3	1	0
N	.9	1.8	1	6

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.3	2.1	0	0
NE	.4	2.0	4	1
ENE	.6	2.0	1	1
E	.7	2.0	1	1
ESE	.7	2.0	2	0
SE	.6	1.6	0	0
SSE	.5	1.8	0	0
S	.7	1.8	1	0
SSW	.8	1.9	0	0
SW	.7	1.8	5	1
WSW	.3	1.9	1	0
W	.8	2.6	42	52
WNW	.5	2.5	31	28
NW	.7	2.0	6	3
NNW	.6	1.6	3	0
N	1.0	2.2	3	6

LOCATION 13

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.6	3	3
NE	.4	2.1	6	2
ENE	.6	2.1	1	7
E	.5	2.0	0	0
ESE	.7	1.9	1	0
SE	.1	1.7	0	0
SSE	.1	1.4	0	0
S	.5	1.7	0	0
SSW	.6	1.6	0	0
SW	1.0	2.1	40	15
WSW	.6	1.7	2	0
W	1.0	2.3	30	58
WNW	.6	1.6	2	0
NW	.6	1.5	0	0
NNW	.8	2.0	13	6
N	.7	2.4	2	9

LOCATION 14

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.0	1	1
NE	.5	1.8	6	1
ENE	.7	1.7	1	4
E	.4	1.7	0	0
ESE	.3	1.6	0	0
SE	1.0	2.1	1	0
SSE	.7	1.7	0	0
S	.6	1.6	0	0
SSW	.6	1.6	0	0
SW	.2	1.3	0	0
WSW	.1	1.6	0	0
W	.6	2.2	15	21
WNW	.8	2.1	31	27
NW	.7	1.8	7	3
NNW	.8	1.6	8	1
N	1.2	2.7	28	39

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.5	0	0
NE	.1	1.3	70	62
ENE	.7	1.8	0	1
E	1.2	2.6	0	6
ESE	1.9	3.2	95	78
SE	1.3	2.7	0	1
SSE	.8	2.2	0	0
S	.9	2.6	0	1
SSW	.9	2.3	0	0
SW	.3	1.3	0	0
WSW	.4	1.8	0	0
W	.4	1.7	0	0
WNW	.7	1.6	0	0
NW	1.0	1.7	0	0
NNW	.9	1.7	0	0
N	.7	1.7	0	0

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.3	0	0
NE	.2	1.3	0	0
ENE	.4	1.4	0	2
E	.9	2.2	1	12
ESE	1.2	2.4	58	40
SE	1.1	2.4	6	4
SSE	.9	2.1	1	1
S	.8	2.0	8	12
SSW	.9	2.0	4	4
SW	.4	1.2	0	0
WSW	.3	1.3	0	0
W	.6	1.5	0	4
WNW	.7	1.4	3	2
NW	.8	1.5	5	8
NNW	.9	1.5	13	10
N	.6	1.4	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.4	0	0
NE	.4	1.3	0	0
ENE	.6	1.6	0	4
E	1.0	2.1	0	7
ESE	1.4	2.7	73	54
SE	1.0	2.5	2	2
SSE	.7	2.0	0	1
S	.8	2.3	9	13
SSW	.9	2.3	8	6
SW	.1	1.2	0	0
WSW	.3	1.3	0	0
W	.6	1.5	0	1
WNW	.6	1.4	1	0
NW	.6	1.4	1	1
NNW	.6	1.4	1	0
N	.9	2.1	1	10

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.4	0	0
NE	.3	1.3	0	0
ENE	.6	1.5	0	4
E	.9	2.1	0	8
ESE	1.3	2.6	89	71
SE	1.0	2.3	3	3
SSE	.9	2.0	1	1
S	.7	1.7	1	2
SSW	.8	1.8	0	2
SW	.1	1.2	0	0
WSW	.4	1.2	0	0
W	.6	1.5	0	3
WNW	.7	1.4	3	3
NW	.3	1.4	0	0
NNW	.6	1.4	2	0
N	.6	1.6	0	2

TABLE E-40
EFFECTIVE WIND SPEED RATIOS

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.3	0	0
NE	.4	1.4	0	0
ENE	.7	1.8	1	8
E	.9	2.0	0	5
ESE	1.2	2.5	61	42
SE	.8	2.3	0	0
SSE	.8	2.0	0	0
S	.8	2.4	3	5
SSW	1.0	2.4	17	9
SW	.4	1.3	0	0
WSW	.1	1.4	0	0
W	.8	1.8	2	15
WNW	.5	1.4	1	0
NW	.3	1.3	0	0
NNW	.7	1.4	8	4
N	.9	1.9	2	10

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.3	0	0
NE	.1	1.3	0	0
ENE	.5	1.5	0	1
E	.1	1.3	0	0
ESE	.6	1.8	0	0
SE	.1	1.7	0	0
SSE	.6	2.0	0	0
S	.8	2.2	2	3
SSW	1.0	2.3	41	13
SW	.4	1.3	0	0
WSW	.4	1.2	0	0
W	.7	1.5	1	7
WNW	.7	1.4	19	30
NW	.7	1.4	9	13
NNW	.8	1.4	27	24
N	.8	1.9	1	8

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.4	1	1
NE	1.1	2.4	11	5
ENE	1.1	2.3	3	10
E	1.1	2.6	0	3
ESE	1.2	2.5	11	3
SE	.6	1.7	0	0
SSE	.6	1.8	0	0
S	.8	1.8	0	0
SSW	1.2	2.2	7	3
SW	.6	1.5	0	0
WSW	.9	2.3	5	0
W	1.3	3.0	47	71
WNW	.7	2.0	0	0
NW	.5	1.4	0	0
NNW	1.0	1.8	13	4
N	.9	2.2	0	1

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.3	1.8	0	0
NE	.1	2.2	0	0
ENE	.1	2.2	0	0
E	.6	2.2	0	2
ESE	.9	1.9	39	18
SE	.4	1.5	0	0
SSE	.4	1.5	0	0
S	.3	1.4	0	0
SSW	.5	1.4	0	0
SW	.4	1.3	1	0
WSW	.6	1.5	8	1
W	.7	1.7	11	30
WNW	.6	1.5	23	31
NW	.5	1.4	1	0
NNW	.6	1.6	12	5
N	.8	2.6	4	13

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.1	0	0
NE	.3	1.2	0	0
ENE	.1	1.1	0	0
E	.1	1.3	0	0
ESE	.1	1.2	0	0
SE	.1	1.2	0	0
SSE	.1	1.1	0	0
S	.3	1.2	0	0
SSW	.5	1.3	0	1
SW	.4	1.2	1	3
WSW	.5	1.2	3	3
W	.5	1.4	0	21
WNW	.5	1.3	11	74
NW	.2	1.2	0	0
NNW	.1	1.2	0	0
N	.5	1.3	0	3

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.3	0	0
NE	.5	1.3	0	0
ENE	.4	1.8	0	0
E	.6	2.3	0	0
ESE	.8	2.0	0	0
SE	.9	2.2	0	0
SSE	.9	2.3	0	0
S	1.3	3.0	6	44
SSW	1.8	3.1	95	51
SW	.3	1.5	0	0
WSW	.5	1.5	0	0
W	.8	1.7	0	5
WNW	.6	1.3	0	0
NW	.4	1.2	0	0
NNW	.4	1.2	0	0
N	.5	1.3	0	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.4	0	1
NE	.8	1.5	1	6
ENE	.1	1.7	0	0
E	.3	2.2	0	0
ESE	.1	1.7	0	0
SE	.6	1.9	0	0
SSE	.5	2.0	0	0
S	.9	2.5	0	15
SSW	1.8	3.1	106	75
SW	.1	1.4	0	0
WSW	.5	1.3	0	0
W	.6	1.5	0	1
WNW	.4	1.3	0	0
NW	.4	1.2	0	0
NNW	.5	1.2	0	0
N	.5	1.2	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	1.7	5	8
NE	1.1	2.1	40	35
ENE	.7	1.8	2	14
E	.7	2.3	0	4
ESE	.8	2.7	11	9
SE	.9	2.6	1	1
SSE	.7	2.2	0	0
S	.6	1.7	0	1
SSW	.9	2.3	10	9
SW	.6	1.8	5	4
WSW	.6	1.6	3	1
W	.6	1.3	0	9
WNW	.1	1.9	0	0
NW	.6	1.3	1	4
NNW	.4	1.7	0	0
N	.6	1.3	0	1

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	1	1
NE	1.1	2.3	27	21
ENE	.7	1.6	1	8
E	.6	1.9	0	0
ESE	.9	2.4	9	6
SE	.8	1.8	0	0
SSE	.8	2.0	0	0
S	.6	2.1	0	0
SSW	1.1	2.0	31	13
SW	.6	1.6	4	2
WSW	.6	1.8	1	0
W	.7	2.2	1	14
WNW	.6	1.7	2	1
NW	.7	1.6	4	8
NNW	.8	1.7	14	13
N	.8	1.8	1	6

TABLE E-41
MEAN WIND SPEED RATIOS

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.3	0	0
NE	.4	1.4	1	0
ENE	.7	1.8	1	7
E	.9	2.0	0	4
ESE	1.2	2.5	48	29
SE	.8	2.3	1	1
SSE	.8	2.0	1	1
S	.8	2.4	15	17
SSW	1.0	2.4	22	9
SW	.4	1.3	0	0
WSW	.1	1.4	0	0
W	.8	1.8	4	21
WNW	.5	1.4	2	1
NW	.3	1.3	0	0
NNW	.7	1.4	2	0
N	.9	1.9	2	9

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.3	0	0
NE	.1	1.3	0	0
ENE	.5	1.5	0	2
E	.1	1.3	0	0
ESE	.6	1.8	6	5
SE	.1	1.7	27	12
SSE	.6	2.0	0	1
S	.8	2.2	15	25
SSW	1.0	2.3	35	15
SW	.4	1.3	0	0
WSW	.4	1.2	0	0
W	.7	1.5	0	5
WNW	.7	1.4	4	7
NW	.7	1.4	3	7
NNW	.8	1.4	8	6
N	.8	1.9	2	14

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.4	1	1
NE	1.1	2.4	10	3
ENE	1.1	2.3	2	7
E	1.1	2.6	0	2
ESE	1.2	2.5	5	1
SE	.6	1.7	0	0
SSE	.6	1.8	0	0
S	.8	1.8	0	0
SSW	1.2	2.2	1	1
SW	.6	1.5	0	0
WSW	.9	2.3	8	0
W	1.3	3.0	66	83
WNW	.7	2.0	2	0
NW	.5	1.4	0	0
NNW	1.0	1.8	4	0
N	.9	2.2	0	2

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.3	1.8	1	0
NE	.1	2.2	8	2
ENE	.1	2.2	1	6
E	.6	2.2	3	9
ESE	.9	1.9	19	6
SE	.4	1.5	0	0
SSE	.4	1.5	0	0
S	.3	1.4	0	0
SSW	.5	1.4	0	0
SW	.4	1.3	0	0
WSW	.6	1.5	6	0
W	.7	1.7	15	28
WNW	.6	1.5	8	3
NW	.5	1.4	0	0
NNW	.6	1.6	12	4
N	.8	2.6	26	41

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.1	0	0
NE	.3	1.2	2	0
ENE	.1	1.1	0	0
E	.1	1.3	0	0
ESE	.1	1.2	0	0
SE	.1	1.2	0	0
SSE	.1	1.1	0	0
S	.3	1.2	0	0
SSW	.5	1.3	0	0
SW	.4	1.2	2	0
WSW	.5	1.2	23	3
W	.5	1.4	50	70
WNW	.5	1.3	27	27
NW	.2	1.2	0	0
NNW	.1	1.2	4	0
N	.5	1.3	0	1

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.3	0	0
NE	.5	1.3	0	0
ENE	.4	1.8	0	2
E	.6	2.3	0	3
ESE	.8	2.0	0	0
SE	.9	2.2	0	0
SSE	.9	2.3	0	1
S	1.3	3.0	22	55
SSW	1.8	3.1	80	34
SW	.3	1.5	0	0
WSW	.5	1.5	0	0
W	.8	1.7	0	5
WNW	.6	1.3	0	0
NW	.4	1.2	0	0
NNW	.4	1.2	0	0
N	.5	1.3	0	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.4	0	0
NE	.8	1.5	1	2
ENE	.1	1.7	0	1
E	.3	2.2	0	3
ESE	.1	1.7	0	0
SE	.6	1.9	0	0
SSE	.5	2.0	0	0
S	.9	2.5	6	43
SSW	1.8	3.1	95	50
SW	.1	1.4	0	0
WSW	.5	1.3	0	0
W	.6	1.5	0	0
WNW	.4	1.3	0	0
NW	.4	1.2	0	0
NNW	.5	1.2	0	0
N	.5	1.2	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	1.7	1	2
NE	1.1	2.1	26	21
ENE	.7	1.8	1	12
E	.7	2.3	1	14
ESE	.8	2.7	44	34
SE	.9	2.6	4	3
SSE	.7	2.2	1	1
S	.6	1.7	1	2
SSW	.9	2.3	9	7
SW	.6	1.8	0	0
WSW	.6	1.6	5	1
W	.6	1.3	0	0
WNW	.1	1.9	0	0
NW	.6	1.3	0	0
NNW	.4	1.7	5	2
N	.6	1.3	0	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	2	2
NE	1.1	2.3	28	20
ENE	.7	1.6	0	5
E	.6	1.9	0	1
ESE	.9	2.4	24	14
SE	.8	1.8	0	0
SSE	.8	2.0	1	1
S	.6	2.1	0	1
SSW	1.1	2.0	10	6
SW	.6	1.6	0	0
WSW	.6	1.8	5	1
W	.7	2.2	4	23
WNW	.6	1.7	7	8
NW	.7	1.6	1	1
NNW	.8	1.7	13	9
N	.8	1.8	1	5

TABLE E-42
EFFECTIVE WIND SPEED RATIOS

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.5	0	0
NE	1.4	2.1	4	2
ENE	1.1	2.6	0	5
E	1.7	3.3	1	10
ESE	2.1	3.8	67	60
SE	2.3	4.0	18	10
SSE	1.9	3.5	3	4
S	.8	2.3	0	0
SSW	.6	2.0	0	0
SW	.9	2.3	1	1
WSW	1.2	2.2	5	1
W	.8	1.9	0	0
WNW	.6	2.2	0	0
NW	.8	1.7	0	0
NNW	.8	2.0	0	0
N	.8	1.6	0	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	1.9	0	0
NE	.7	2.4	10	8
ENE	.1	2.8	25	42
E	.5	2.2	0	0
ESE	.8	2.2	4	5
SE	.8	2.4	0	0
SSE	.8	2.7	0	1
S	.7	2.0	0	2
SSW	1.1	2.3	56	24
SW	.6	1.8	3	3
WSW	.6	1.7	2	1
W	.6	2.1	0	3
WNW	.6	1.9	2	5
NW	.6	1.3	1	4
NNW	.5	1.4	1	1
N	.1	1.5	0	0

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.6	2.7	15	14
NE	1.6	2.7	34	23
ENE	1.0	2.2	1	5
E	.8	1.9	0	0
ESE	1.1	2.0	2	1
SE	.8	2.1	0	0
SSE	1.0	2.5	0	0
S	.9	1.9	0	0
SSW	.8	1.9	0	0
SW	.7	2.1	1	0
WSW	1.0	2.1	7	1
W	.9	1.8	0	1
WNW	.5	1.5	0	0
NW	.8	1.6	1	1
NNW	1.1	2.1	19	13
N	1.5	2.8	17	38

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.8	5	4
NE	1.5	2.7	31	17
ENE	1.5	2.8	18	24
E	.7	2.1	0	0
ESE	.6	1.6	0	0
SE	1.1	2.1	0	0
SSE	1.0	2.0	0	0
S	.9	2.3	0	0
SSW	.9	1.8	0	0
SW	.8	2.1	2	0
WSW	.9	1.8	4	0
W	1.0	2.3	1	5
WNW	1.2	2.6	37	48
NW	.7	1.7	0	0
NNW	.6	1.5	0	0
N	.1	1.8	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.5	0	0
NE	.8	1.8	6	2
ENE	.5	2.0	0	0
E	.5	2.5	0	0
ESE	.9	1.8	1	0
SE	.8	2.0	0	0
SSE	.8	1.9	0	0
S	.7	1.7	0	0
SSW	1.0	2.2	1	1
SW	.3	1.6	0	0
WSW	.7	1.6	1	0
W	.8	2.2	0	0
WNW	1.6	2.1	31	30
NW	1.1	2.4	60	69
NNW	.7	1.9	2	6
N	.7	1.8	0	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.3	0	0
NE	.4	1.3	1	2
ENE	.1	1.3	0	0
E	.3	1.1	0	0
ESE	.4	1.1	0	1
SE	.1	1.6	0	0
SSE	.3	1.1	0	0
S	.1	1.8	0	0
SSW	.4	1.1	0	1
SW	.2	1.0	0	0
WSW	.2	1.1	0	0
W	.1	1.2	0	0
WNW	.1	1.1	0	0
NW	.1	1.6	0	0
NNW	.3	1.2	0	0
N	.1	1.2	0	0

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.1	0	0
NE	.2	1.4	0	0
ENE	.3	1.2	0	1
E	.1	1.3	0	0
ESE	.3	1.0	0	0
SE	.1	1.7	0	0
SSE	.1	1.7	0	0
S	.1	1.1	0	0
SSW	.1	1.4	0	0
SW	.1	1.1	0	0
WSW	.1	1.1	0	0
W	.1	1.2	0	0
WNW	.1	1.7	0	0
NW	.1	1.1	0	0
NNW	.1	1.3	0	0
N	.1	1.1	0	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.9	1	1
NE	.8	1.4	23	9
ENE	.6	1.4	0	3
E	.1	1.2	0	0
ESE	.3	1.1	0	0
SE	.1	1.1	0	0
SSE	.1	1.3	0	0
S	.1	1.6	0	0
SSW	.6	1.4	0	0
SW	.3	1.3	0	0
WSW	.4	1.2	0	0
W	.4	1.4	0	0
WNW	.8	1.6	68	86
NW	.6	1.2	9	3
NNW	.1	1.1	0	0
N	.4	1.7	0	0

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.7	0	0
NE	.5	2.0	0	0
ENE	.5	2.1	0	0
E	.4	1.9	0	0
ESE	.3	1.5	0	0
SE	.1	1.1	0	0
SSE	.2	1.4	0	0
S	.1	2.3	0	0
SSW	.4	1.9	0	0
SW	.3	3.0	0	0
WSW	.1	2.1	0	0
W	.1	2.4	0	0
WNW	.1	2.7	0	0
NW	.8	3.1	0	0
NNW	2.0	3.6	79	70
N	2.0	3.3	31	31

TABLE E-43
MEAN WIND SPEED RATIOS

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.5	0	0
NE	1.1	2.1	4	2
ENE	1.1	2.6	0	7
E	1.7	3.3	3	16
ESE	2.1	3.8	68	57
SE	2.3	4.0	11	7
SSE	1.9	3.5	3	4
S	.8	2.3	0	0
SSW	.6	2.0	0	0
SW	.9	2.3	4	3
WSW	1.2	2.2	5	1
W	.8	1.9	0	0
WNW	.6	2.2	0	0
NW	.8	1.7	0	0
NNW	.8	2.0	1	0
N	.8	1.6	0	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	1.9	0	0
NE	.7	2.4	18	12
ENE	.1	2.8	22	33
E	.5	2.2	0	1
ESE	.8	2.2	10	6
SE	.8	2.4	0	1
SSE	.8	2.7	1	1
S	.7	2.0	0	3
SSW	1.1	2.3	27	11
SW	.6	1.8	3	2
WSW	.6	1.7	3	0
W	.6	2.1	1	12
WNW	.6	1.9	9	13
NW	.6	1.3	0	0
NNW	.5	1.4	1	0
N	.1	1.5	0	1

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.6	2.7	15	12
NE	1.6	2.7	34	20
ENE	1.0	2.2	1	4
E	.8	1.9	0	1
ESE	1.1	2.0	2	1
SE	.8	2.1	0	0
SSE	1.0	2.5	0	0
S	.9	1.9	0	1
SSW	.8	1.9	0	0
SW	.7	2.1	5	2
WSW	1.0	2.1	14	3
W	.9	1.8	0	3
WNW	.5	1.5	0	0
NW	.8	1.6	0	0
NNW	1.1	2.1	17	12
N	1.5	2.8	16	36

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.8	4	2
NE	1.5	2.7	21	9
ENE	1.5	2.8	10	16
E	.7	2.1	0	0
ESE	.6	1.6	0	0
SE	1.1	2.1	0	0
SSE	1.0	2.0	0	0
S	.9	2.3	0	0
SSW	.9	1.8	0	0
SW	.8	2.1	4	0
WSW	.9	1.8	3	0
W	1.0	2.3	1	3
WNW	1.2	2.8	56	70
NW	.7	1.7	0	0
NNW	.6	1.5	0	0
N	.1	1.8	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.5	0	0
NE	.8	1.8	2	0
ENE	.5	2.0	0	1
E	.5	2.5	0	0
ESE	.9	1.8	0	0
SE	.8	2.0	0	0
SSE	.8	1.9	0	0
S	.7	1.7	0	0
SSW	1.0	2.2	0	1
SW	.3	1.6	0	0
WSW	.7	1.6	0	0
W	.8	2.2	0	1
WNW	1.0	2.1	34	33
NW	1.1	2.4	58	64
NNW	.7	1.9	5	0
N	.7	1.8	0	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.3	0	0
NE	.4	1.3	0	0
ENE	.1	1.3	72	59
E	.3	1.1	0	0
ESE	.4	1.1	0	0
SE	.1	1.8	0	0
SSE	.3	1.1	0	0
S	.1	1.8	13	16
SSW	.4	1.1	0	0
SW	.2	1.0	0	0
WSW	.2	1.1	0	0
W	.1	1.2	0	1
WNW	.1	1.1	4	3
NW	.1	1.6	9	14
NNW	.3	1.2	2	0
N	.1	1.2	0	0

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.1	0	0
NE	.2	1.4	0	0
ENE	.3	1.2	0	3
E	.1	1.3	0	0
ESE	.3	1.0	0	0
SE	.1	1.7	106	67
SSE	.1	1.7	0	0
S	.1	1.1	0	0
SSW	.1	1.4	0	19
SW	.1	1.1	0	0
WSW	.1	1.1	0	0
W	.1	1.2	0	0
WNW	.1	1.7	0	0
NW	.1	1.1	0	0
NNW	.1	1.3	0	0
N	.1	1.1	0	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.9	5	3
NE	.8	1.4	7	1
ENE	.6	1.4	0	2
E	.1	1.2	0	0
ESE	.3	1.1	0	0
SE	.1	1.1	0	0
SSE	.1	1.3	0	0
S	.1	1.6	0	0
SSW	.6	1.4	0	0
SW	.1	1.3	1	0
WSW	.4	1.2	0	0
W	.4	1.4	3	5
WNW	.8	1.6	69	87
NW	.6	1.2	6	2
NNW	.1	1.1	7	1
N	.4	1.7	0	1

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.7	0	0
NE	.5	2.0	0	0
ENE	.5	2.1	0	0
E	.4	1.9	0	0
ESE	.3	1.5	0	0
SE	.1	1.1	0	0
SSE	.2	1.4	0	0
S	.1	2.3	0	0
SSW	.4	1.9	0	0
SW	.3	3.0	0	0
WSW	.1	2.1	0	0
W	.1	2.4	0	0
WNW	.1	2.7	0	0
NW	.8	3.1	15	17
NNW	2.0	3.6	73	68
N	2.0	3.3	11	20

TABLE E-44
EFFECTIVE WIND SPEED RATIOS

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.6	2.4	4	5
NE	1.9	2.7	31	23
ENE	1.5	2.5	4	16
E	1.2	2.2	0	1
ESE	.8	1.5	0	0
SE	.6	1.4	0	0
SSE	.7	2.3	0	0
S	1.5	3.4	5	7
SSW	1.8	3.4	27	10
SW	1.2	2.5	10	5
WSW	.8	1.8	0	0
W	1.2	2.3	0	4
WNW	1.0	2.5	3	2
NW	1.3	2.4	11	20
NNW	.9	2.0	1	0
N	1.4	2.6	1	7

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.3	0	0
NE	1.4	2.4	12	5
ENE	1.2	2.2	0	4
E	.6	1.6	0	0
ESE	.8	1.6	0	0
SE	.6	1.5	0	0
SSE	.7	1.8	0	0
S	1.3	2.9	1	1
SSW	1.5	2.8	4	2
SW	.9	1.8	1	0
WSW	.5	1.5	0	0
W	1.5	2.5	17	33
WNW	1.0	2.2	3	0
NW	1.5	2.6	36	42
NNW	1.4	2.4	23	12
N	1.1	2.2	0	0

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.6	0	0
NE	.5	1.5	0	0
ENE	.6	1.8	0	0
E	1.4	2.9	0	8
ESE	1.7	2.9	35	29
SE	.9	2.2	0	0
SSE	.6	1.6	0	0
S	.6	1.8	0	0
SSW	1.0	2.3	0	0
SW	1.3	2.5	36	25
WSW	.9	2.3	1	0
W	.6	2.0	0	0
WNW	.9	2.1	1	1
NW	1.0	2.3	3	7
NNW	1.3	2.3	24	29
N	1.0	1.8	0	1

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.4	0	0
NE	.4	1.6	0	0
ENE	.8	2.4	0	2
E	1.3	2.9	0	10
ESE	1.4	2.8	18	15
SE	1.0	2.4	0	0
SSE	.7	2.0	0	0
S	.7	2.1	0	0
SSW	.7	2.1	0	0
SW	1.3	2.8	51	36
WSW	1.1	2.6	17	8
W	1.0	2.3	1	16
WNW	.8	2.5	1	2
NW	.7	1.9	0	0
NNW	1.0	2.4	10	9
N	.7	1.5	0	0

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.0	0	0
NE	.9	2.5	2	0
ENE	1.3	3.0	3	7
E	1.2	2.9	0	1
ESE	1.2	2.5	3	0
SE	1.1	2.5	0	0
SSE	.9	2.2	0	0
S	1.1	2.4	0	0
SSW	.8	2.1	0	0
SW	.9	2.1	1	0
WSW	.8	2.2	0	0
W	1.3	2.8	6	7
WNW	1.5	3.0	68	80
NW	1.2	2.7	12	5
NNW	.9	2.4	3	0
N	.9	2.5	0	0

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.1	0	0
NE	.6	2.0	0	0
ENE	.8	2.5	0	0
E	.7	2.0	0	0
ESE	1.5	2.5	7	2
SE	1.3	2.2	0	0
SSE	1.1	2.0	0	0
S	1.3	2.4	1	1
SSW	1.0	2.5	0	0
SW	.5	1.4	0	0
WSW	.7	1.8	0	0
W	.7	2.2	0	0
WNW	1.1	2.9	5	2
NW	1.5	3.4	34	44
NNW	1.7	3.4	52	49
N	1.3	2.8	0	2

LOCATION 43

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	0	0
NE	.8	2.2	1	0
ENE	1.1	3.2	1	4
E	.7	2.2	0	0
ESE	.8	1.7	0	0
SE	.4	1.6	0	0
SSE	.5	1.9	0	0
S	.7	1.6	0	0
SSW	.4	1.7	0	0
SW	1.1	2.8	17	3
WSW	.7	2.1	0	0
W	1.3	3.1	15	20
WNW	1.4	3.1	57	71
NW	1.0	3.1	5	2
NNW	.9	2.3	5	0
N	.7	2.2	0	0

LOCATION 44

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.7	1	1
NE	1.0	2.2	5	2
ENE	.5	2.3	0	0
E	.5	1.6	0	0
ESE	.7	1.7	0	0
SE	.5	1.5	0	0
SSE	.5	1.6	0	0
S	.7	1.5	0	0
SSW	.5	2.2	0	0
SW	1.2	2.9	37	20
WSW	.9	2.4	3	0
W	.9	2.4	0	2
WNW	.5	2.1	0	0
NW	.9	2.5	1	1
NNW	1.4	2.9	52	67
N	1.1	2.4	1	6

LOCATION 45

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.4	0	0
NE	.7	2.1	0	0
ENE	.8	2.5	0	0
E	.9	2.2	0	0
ESE	1.0	1.8	0	0
SE	.5	1.5	0	0
SSE	.6	2.1	0	0
S	.7	1.7	0	0
SSW	.8	2.5	0	0
SW	1.4	3.2	27	8
WSW	1.3	3.2	11	1
W	1.1	2.7	0	1
WNW	1.6	3.6	52	85
NW	1.3	3.2	7	5
NNW	1.0	2.8	3	0
N	1.1	2.7	0	0

TABLE E-45
MEAN WIND SPEED RATIOS

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.6	2.4	1	2
NE	1.9	2.7	18	12
ENE	1.5	2.5	2	11
E	1.2	2.2	0	0
ESE	.8	1.5	0	0
SE	.6	1.4	0	0
SSE	.7	2.3	0	0
S	1.5	3.4	12	16
SSW	1.8	3.4	30	11
SW	1.2	2.5	14	7
WSW	.8	1.9	0	0
W	1.2	2.3	0	4
WNW	1.0	2.5	9	12
NW	1.3	2.4	10	17
NNW	.9	2.0	3	1
N	1.4	2.6	1	6

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.3	0	0
NE	1.4	2.4	10	4
ENE	1.2	2.2	0	4
E	.6	1.6	0	0
ESE	.8	1.6	0	0
SE	.6	1.5	0	0
SSE	.7	1.8	0	0
S	1.3	2.9	6	5
SSW	1.5	2.8	8	4
SW	.9	1.8	1	0
WSW	.5	1.5	0	0
W	1.5	2.5	10	25
WNW	1.0	2.2	8	4
NW	1.5	2.6	33	41
NNW	1.4	2.4	23	13
N	1.1	2.2	0	1

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.6	0	0
NE	.5	1.5	0	0
ENE	.6	1.8	0	1
E	1.4	2.9	1	11
ESE	1.7	2.9	25	18
SE	.9	2.2	0	0
SSE	.6	1.6	0	0
S	.6	1.8	0	0
SSW	1.0	2.3	0	0
SW	1.3	2.5	38	24
WSW	.9	2.3	6	1
W	.6	2.0	0	1
WNW	.9	2.1	6	9
NW	1.0	2.3	8	17
NNW	1.3	2.3	17	17
N	1.0	1.8	0	0

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.4	0	0
NE	.4	1.6	0	0
ENE	.6	2.4	0	5
E	1.3	2.9	1	9
ESE	1.4	2.8	11	7
SE	1.0	2.4	0	0
SSE	.7	2.0	0	0
S	.7	2.1	0	0
SSW	.7	2.1	0	0
SW	1.3	2.8	40	22
WSW	1.1	2.6	19	6
W	1.0	2.3	1	11
WNW	.8	2.5	18	35
NW	.7	1.9	0	0
NNW	1.0	2.4	9	5
N	.7	1.5	0	0

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.0	0	0
NE	.9	2.5	3	0
ENE	1.3	3.0	3	9
E	1.2	2.9	0	1
ESE	1.2	2.5	2	0
SE	1.1	2.5	0	0
SSE	.9	2.2	0	0
S	1.1	2.4	0	0
SSW	.8	2.1	0	0
SW	.9	2.1	2	0
WSW	.8	2.2	1	0
W	1.3	2.8	3	5
WNW	1.5	3.0	59	72
NW	1.2	2.7	19	11
NNW	.9	2.4	7	1
N	.9	2.5	0	1

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.1	0	0
NE	.6	2.0	1	0
ENE	.8	2.5	0	2
E	.7	2.0	0	0
ESE	1.5	2.5	1	0
SE	1.3	2.2	0	0
SSE	1.1	2.0	0	0
S	1.3	2.4	0	0
SSW	1.0	2.5	0	0
SW	.5	1.4	0	0
WSW	.7	1.8	0	0
W	.7	2.2	0	0
WNW	1.1	2.9	11	7
NW	1.5	3.4	36	49
NNW	1.7	3.4	47	39
N	1.3	2.8	1	3

LOCATION 43

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	0	0
NE	.8	2.2	1	0
ENE	1.1	3.2	2	8
E	.7	2.2	0	0
ESE	.8	1.7	0	0
SE	.4	1.6	0	0
SSE	.5	1.9	0	0
S	.7	1.6	0	0
SSW	.4	1.7	0	0
SW	1.1	2.8	14	3
WSW	.7	2.1	0	0
W	1.3	3.1	11	18
WNW	1.4	3.1	45	53
NW	1.0	3.1	22	18
NNW	.9	2.3	5	0
N	.7	2.2	0	0

LOCATION 44

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.7	1	1
NE	1.0	2.2	5	2
ENE	.5	2.3	0	1
E	.5	1.6	0	0
ESE	.7	1.7	0	0
SE	.5	1.5	0	0
SSE	.5	1.6	0	0
S	.7	1.5	0	0
SSW	.5	2.2	0	0
SW	1.2	2.9	38	20
WSW	.9	2.4	5	1
W	.9	2.4	0	6
WNW	.5	2.1	1	0
NW	.9	2.5	8	14
NNW	1.4	2.9	41	50
N	1.1	2.4	0	5

LOCATION 45

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.4	0	0
NE	.7	2.1	0	0
ENE	.8	2.5	0	1
E	.9	2.2	0	0
ESE	1.0	1.8	0	0
SE	.5	1.5	0	0
SSE	.6	2.1	0	0
S	.7	1.7	0	0
SSW	.8	2.5	0	0
SW	1.4	3.2	26	9
WSW	1.3	3.2	12	1
W	1.1	2.7	0	1
WNW	1.6	3.6	42	71
NW	1.3	3.2	13	14
NNW	1.0	2.8	7	2
N	1.1	2.7	0	1

TABLE E-46
EFFECTIVE WIND SPEED RATIOS

LOCATION 46

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.5	1.9	0	0
NE	.7	2.0	1	0
ENE	.8	2.6	0	1
E	1.0	2.7	0	0
ESE	1.2	2.1	6	2
SE	.8	1.8	0	0
SSE	.7	2.2	0	0
S	1.0	1.9	0	0
SSW	.7	1.9	0	0
SW	1.1	2.5	16	6
WSW	1.3	3.1	35	10
W	.8	2.1	0	0
WNW	1.3	3.0	43	81
NW	.7	2.5	0	0
NNW	.7	1.7	0	0
N	.7	2.3	0	0

LOCATION 47

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	1.8	0	0
NE	.5	1.5	0	0
ENE	.7	2.0	0	3
E	1.0	2.4	0	5
ESE	.9	1.8	4	2
SE	.5	1.5	0	0
SSE	.6	2.0	0	0
S	.8	1.9	0	1
SSW	.9	2.3	0	1
SW	1.0	2.4	42	22
WSW	.8	2.3	6	1
W	.5	2.2	0	0
WNW	.5	1.9	0	0
NW	.6	1.6	0	0
NNW	1.1	2.1	43	52
N	1.0	2.1	3	13

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.1	2.3	5	6
NE	.8	1.9	4	2
ENE	.7	1.9	0	2
E	.9	2.7	0	1
ESE	.8	1.9	0	0
SE	.9	2.0	0	0
SSE	.9	2.1	0	0
S	1.2	2.7	13	16
SSW	1.2	2.7	13	7
SW	1.0	2.8	41	22
WSW	.8	2.1	3	0
W	.5	1.9	0	0
WNW	.5	1.4	0	0
NW	.6	1.5	0	0
NNW	.7	1.8	2	0
N	1.4	2.3	18	4

LOCATION 49

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	2.0	0	0
NE	.6	2.1	2	1
ENE	.7	2.0	0	3
E	.9	2.3	0	3
ESE	1.0	2.4	10	4
SE	.7	2.2	0	0
SSE	.7	2.0	0	0
S	.7	2.0	0	0
SSW	.6	2.1	0	0
SW	.7	2.3	8	3
WSW	.8	2.4	10	1
W	.7	2.0	0	2
WNW	.5	1.9	0	0
NW	.9	2.1	36	54
NNW	.9	2.1	26	19
N	1.0	2.1	3	11

LOCATION 50

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	2.2	0	0
NE	.9	2.2	6	3
ENE	1.3	3.0	15	28
E	.7	1.8	0	0
ESE	.8	2.4	0	0
SE	.7	1.9	0	0
SSE	.5	1.8	0	0
S	.9	2.2	0	1
SSW	1.0	1.8	1	2
SW	1.0	2.0	29	16
WSW	1.0	2.3	24	9
W	.8	1.7	0	3
WNW	.7	1.6	1	1
NW	.9	2.2	12	25
NNW	.9	2.1	11	8
N	.8	1.8	0	2

LOCATION 51

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.4	2.4	0	1
NE	1.2	2.4	1	1
ENE	1.0	2.7	0	1
E	1.5	3.1	0	2
ESE	2.3	3.7	36	32
SE	1.9	3.4	0	1
SSE	1.7	3.5	0	1
S	1.7	3.2	2	5
SSW	1.1	2.5	0	0
SW	1.4	3.0	5	4
WSW	1.9	3.4	39	25
W	1.1	2.2	0	0
WNW	1.0	2.0	0	0
NW	1.3	2.3	2	4
NNW	1.6	2.5	12	12
N	1.8	2.8	1	13

LOCATION 52

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.6	3.3	1	1
NE	1.4	2.8	4	2
ENE	.9	2.5	0	0
E	.7	2.3	0	0
ESE	.9	2.0	0	0
SE	.6	1.8	0	0
SSE	.5	1.6	0	0
S	.6	1.7	0	0
SSW	.7	2.5	0	0
SW	2.0	3.6	54	33
WSW	1.4	3.3	2	0
W	.9	2.5	0	0
WNW	1.5	3.2	9	16
NW	1.6	3.3	4	7
NNW	1.4	3.6	25	29
N	1.8	3.4	1	10

TABLE E-47
MEAN WIND SPEED RATIOS

LOCATION 46

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.5	1.9	0	0
NE	.7	2.0	1	0
ENE	.8	2.6	0	4
E	1.0	2.7	0	1
ESE	1.2	2.1	0	0
SE	.8	1.8	0	0
SSE	.7	2.2	0	0
S	1.0	1.9	0	0
SSW	.7	1.9	0	0
SW	1.1	2.5	15	4
WSW	1.3	3.1	30	6
W	.8	2.1	0	0
WNW	1.3	3.0	51	85
NW	.7	2.5	3	1
NNW	.7	1.7	0	0
N	.7	2.3	0	0

LOCATION 47

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	1.8	0	0
NE	.5	1.5	1	0
ENE	.7	2.0	0	7
E	1.0	2.4	0	8
ESE	.9	1.8	1	0
SE	.5	1.5	0	0
SSE	.6	2.0	0	0
S	.8	1.9	0	0
SSW	.9	2.3	1	2
SW	1.0	2.4	52	34
WSW	.8	2.3	18	7
W	.5	2.2	0	3
WNW	.5	1.9	3	4
NW	.6	1.6	0	1
NNW	1.1	2.1	22	24
N	1.0	2.1	1	8

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.1	2.3	2	4
NE	.8	1.9	4	2
ENE	.7	1.9	0	5
E	.9	2.7	0	4
ESE	.8	1.9	0	0
SE	.9	2.0	0	0
SSE	.9	2.1	0	0
S	1.2	2.7	11	18
SSW	1.2	2.7	7	6
SW	1.0	2.8	55	34
WSW	.8	2.1	10	3
W	.5	1.9	0	0
WNW	.5	1.4	0	0
NW	.6	1.5	0	0
NNW	.7	1.8	4	2
N	1.4	2.3	4	21

LOCATION 49

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	2.0	0	1
NE	.6	2.1	7	4
ENE	.7	2.0	0	6
E	.9	2.3	0	4
ESE	1.0	2.4	6	3
SE	.7	2.2	0	0
SSE	.7	2.0	0	0
S	.7	2.0	0	0
SSW	.6	2.1	0	0
SW	.7	2.3	16	8
WSW	.8	2.4	25	8
W	.7	2.0	1	7
WNW	.5	1.9	4	3
NW	.9	2.1	19	34
NNW	.8	2.1	20	17
N	1.0	2.1	1	5

LOCATION 50

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	2.2	0	1
NE	.9	2.2	8	4
ENE	1.3	3.0	19	32
E	.7	1.8	0	0
ESE	.8	2.4	2	1
SE	.7	1.9	0	0
SSE	.5	1.8	0	0
S	.9	2.2	2	3
SSW	1.0	1.8	0	1
SW	1.0	2.0	9	5
WSW	1.0	2.3	34	15
W	.8	1.7	0	2
WNW	.7	1.6	1	1
NW	.9	2.2	11	22
NNW	.9	2.1	14	11
N	.8	1.8	0	1

LOCATION 51

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.4	2.4	0	1
NE	1.2	2.4	2	1
ENE	1.0	2.7	0	5
E	1.5	3.1	0	5
ESE	2.3	3.7	29	25
SE	1.9	3.4	0	1
SSE	1.7	3.5	1	1
S	1.7	3.2	2	6
SSW	1.1	2.5	0	0
SW	1.4	3.0	11	8
WSW	1.9	3.4	42	27
W	1.1	2.2	0	0
WNW	1.0	2.0	0	0
NW	1.3	2.3	1	4
NNW	1.6	2.5	10	9
N	1.8	2.8	1	8

LOCATION 52

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.6	3.3	1	2
NE	1.4	2.8	4	2
ENE	.9	2.5	0	1
E	.7	2.3	0	0
ESE	.9	2.0	0	0
SE	.6	1.8	0	0
SSE	.5	1.6	0	0
S	.6	1.7	0	0
SSW	.7	2.5	0	0
SW	2.0	3.6	43	26
WSW	1.4	3.3	10	3
W	.9	2.5	0	0
WNW	1.5	3.2	13	24
NW	1.5	3.3	5	10
NNW	1.9	3.6	24	26
N	1.8	3.4	1	7

TABLE E-48
EFFECTIVE WIND SPEED RATIOS

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.1	0	0
NE	.1	1.1	0	0
ENE	.5	1.9	0	0
E	.6	1.7	0	0
ESE	.9	1.8	0	0
SE	1.1	2.1	0	0
SSE	1.4	2.7	0	0
S	1.8	3.3	4	10
SSW	1.6	3.0	0	2
SW	1.2	2.8	1	1
WSW	2.3	3.7	94	84
W	.6	2.0	0	0
WNW	.7	3.0	0	0
NW	1.3	3.7	1	3
NNW	.3	1.8	0	0
N	.1	1.3	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.7	0	0
NE	.7	1.7	0	0
ENE	.8	2.0	0	1
E	.7	2.2	0	0
ESE	.7	1.7	0	0
SE	.6	1.7	0	0
SSE	1.0	2.3	0	0
S	1.2	2.9	1	3
SSW	1.6	3.5	37	15
SW	1.1	2.9	13	8
WSW	1.3	3.0	30	15
W	1.2	2.7	9	47
WNW	.7	2.1	0	0
NW	.8	2.1	0	1
NNW	1.0	2.0	8	6
N	1.1	2.3	0	4

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.9	0	0
NE	.7	2.2	0	0
ENE	1.0	2.2	0	2
E	1.4	2.5	0	3
ESE	1.4	2.5	7	2
SE	1.1	2.2	0	0
SSE	1.2	2.5	0	0
S	1.4	2.8	3	3
SSW	.9	2.3	0	0
SW	1.3	3.0	21	8
WSW	1.4	3.3	21	4
W	1.5	3.0	31	66
WNW	.9	2.2	2	0
NW	1.1	2.3	3	2
NNW	1.2	2.4	14	7
N	1.2	2.5	0	2

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.0	0	0
NE	.9	2.3	1	0
ENE	1.0	2.0	0	2
E	1.3	2.3	0	2
ESE	1.5	2.5	10	6
SE	1.3	2.5	0	0
SSE	1.1	2.4	0	0
S	1.1	2.4	0	0
SSW	1.0	2.7	0	0
SW	1.1	3.0	6	3
WSW	1.7	3.5	59	31
W	1.4	2.9	5	27
WNW	1.2	2.7	16	28
NW	1.0	2.4	1	1
NNW	.9	2.4	2	0
N	.7	1.7	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.5	0	0
NE	.6	1.7	0	0
ENE	.8	1.7	0	1
E	.9	2.4	0	0
ESE	1.1	2.6	1	0
SE	.9	2.2	0	0
SSE	.5	2.0	0	0
S	.6	1.9	0	0
SSW	1.0	2.6	0	0
SW	1.4	3.0	43	20
WSW	1.3	2.9	24	6
W	1.4	3.1	25	64
WNW	1.0	2.4	3	2
NW	1.1	2.3	5	6
NNW	.6	1.5	0	0
N	.7	1.5	0	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	1.9	0	0
NE	1.0	2.1	2	1
ENE	1.1	2.4	0	4
E	1.3	2.6	0	2
ESE	1.5	2.9	10	6
SE	1.6	2.8	0	1
SSE	1.3	3.0	0	0
S	1.5	3.1	4	7
SSW	1.4	2.9	1	2
SW	1.1	2.6	5	3
WSW	1.6	3.6	48	24
W	1.2	3.2	0	6
WNW	1.3	2.8	21	42
NW	1.0	2.2	1	2
NNW	1.1	2.2	5	2
N	.9	2.4	0	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.4	0	0
NE	1.0	2.7	2	1
ENE	.9	2.6	0	1
E	1.1	2.4	0	0
ESE	1.5	2.8	4	2
SE	1.4	2.8	0	0
SSE	1.3	3.1	0	0
S	1.6	3.1	8	12
SSW	1.7	3.2	8	6
SW	1.4	3.1	25	14
WSW	1.4	3.3	14	4
W	1.3	3.2	1	9
WNW	1.3	2.6	15	27
NW	1.2	2.6	4	7
NNW	1.4	2.9	18	16
N	.8	2.8	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.6	0	0
NE	.3	1.7	0	0
ENE	.4	1.7	0	0
E	.2	1.5	0	0
ESE	.6	2.1	0	0
SE	.9	2.3	0	0
SSE	.1	1.2	0	0
S	.4	2.2	0	0
SSW	.8	2.5	0	0
SW	.8	2.9	3	1
WSW	1.2	3.0	59	28
W	.7	1.9	0	0
WNW	1.0	2.5	26	49
NW	1.0	2.6	14	23
NNW	.6	2.0	0	0
N	.5	1.6	0	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	0	0
NE	1.0	2.1	2	0
ENE	.6	2.3	0	0
E	1.1	2.5	0	0
ESE	1.3	2.6	2	1
SE	1.7	3.1	2	1
SSE	1.0	3.0	0	0
S	.8	2.4	0	0
SSW	1.2	2.6	0	0
SW	1.3	3.0	21	9
WSW	1.4	3.0	24	6
W	1.3	2.6	2	14
WNW	1.3	2.7	29	51
NW	1.2	2.5	11	16
NNW	1.1	2.5	6	2
N	.8	2.1	0	0

TABLE E-49
MEAN WIND SPEED RATIOS

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.1	0	0
NE	.1	1.1	0	0
ENE	.5	1.9	0	0
E	.6	1.7	0	0
ESE	.9	1.8	0	0
SE	1.1	2.1	0	0
SSE	1.4	2.7	0	0
S	1.8	3.3	4	7
SSW	1.6	3.0	0	2
SW	1.2	2.8	7	4
WSW	2.3	3.7	65	39
W	.6	2.0	0	0
WNW	.7	3.0	2	2
NW	1.3	3.7	21	47
NNW	.3	1.8	0	0
N	.1	1.3	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.7	0	0
NE	.7	1.1	0	0
ENE	.8	2.0	0	1
E	.7	2.2	0	0
ESE	.7	1.7	0	0
SE	.6	1.7	0	0
SSE	1.0	2.3	0	0
S	1.2	2.9	3	7
SSW	1.6	3.5	28	13
SW	1.1	2.9	25	16
WSW	1.3	3.0	29	14
W	1.2	2.7	7	42
WNW	.7	2.1	1	1
NW	.8	2.1	1	2
NNW	1.0	2.0	4	2
N	1.1	2.3	0	1

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.9	0	0
NE	.7	2.2	1	0
ENE	1.0	2.2	0	2
E	1.4	2.5	0	1
ESE	1.4	2.5	1	0
SE	1.1	2.2	0	0
SSE	1.2	2.5	0	0
S	1.4	2.8	1	2
SSW	.9	2.3	0	0
SW	1.3	3.0	33	18
WSW	1.4	3.3	37	15
W	1.5	3.0	15	53
WNW	.9	2.2	2	1
NW	1.1	2.3	2	2
NNW	1.2	2.4	7	3
N	1.2	2.5	0	2

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.0	0	0
NE	.9	2.3	1	0
ENE	1.0	2.0	0	1
E	1.3	2.3	0	0
ESE	1.5	2.5	2	1
SE	1.3	2.5	0	0
SSE	1.1	2.4	0	0
S	1.1	2.4	0	0
SSW	1.0	2.7	0	0
SW	1.1	3.0	16	8
WSW	1.7	3.5	53	25
W	1.4	2.9	10	30
WNW	1.2	2.7	16	25
NW	1.0	2.4	1	1
NNW	.9	2.4	2	0
N	.7	1.7	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.5	0	0
NE	.6	1.7	0	0
ENE	.8	1.7	0	1
E	.9	2.4	0	0
ESE	1.1	2.6	1	0
SE	.9	2.2	0	0
SSE	.5	2.0	0	0
S	.6	1.9	0	0
SSW	1.0	2.6	0	0
SW	1.4	3.0	40	16
WSW	1.3	2.9	23	6
W	1.4	3.1	27	67
WNW	1.0	2.4	6	5
NW	1.1	2.3	2	3
NNW	.6	1.5	0	0
N	.7	1.5	0	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	1.9	0	0
NE	1.0	2.1	2	1
ENE	1.1	2.4	0	4
E	1.3	2.8	0	1
ESE	1.5	2.9	5	3
SE	1.6	2.8	0	0
SSE	1.3	3.0	0	0
S	1.5	3.1	4	6
SSW	1.4	2.9	1	2
SW	1.1	2.6	8	4
WSW	1.6	3.6	56	28
W	1.2	3.2	5	25
WNW	1.3	2.8	15	24
NW	1.0	2.2	1	1
NNW	1.1	2.2	4	1
N	.9	2.4	0	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.4	0	0
NE	1.0	2.7	4	2
ENE	.9	2.6	0	2
E	1.1	2.4	0	0
ESE	1.5	2.8	2	1
SE	1.4	2.8	0	0
SSE	1.3	3.1	0	0
S	1.6	3.1	4	6
SSW	1.7	3.2	3	4
SW	1.4	3.1	31	18
WSW	1.4	3.3	25	10
W	1.3	3.2	4	25
WNW	1.3	2.6	9	13
NW	1.2	2.6	2	4
NNW	1.4	2.9	15	12
N	.8	2.8	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.6	0	0
NE	.3	1.7	0	0
ENE	.4	1.7	0	0
E	.2	1.5	0	0
ESE	.6	2.1	0	0
SE	.9	2.3	0	0
SSE	.1	1.2	0	0
S	.4	2.2	0	0
SSW	.8	2.5	0	1
SW	.8	2.9	14	7
WSW	1.2	3.0	49	23
W	.7	1.9	0	1
WNW	1.0	2.5	21	41
NW	1.0	2.6	15	28
NNW	.6	2.0	1	0
N	.5	1.6	0	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	0	0
NE	1.0	2.1	2	1
ENE	.6	2.3	0	1
E	1.1	2.5	0	0
ESE	1.3	2.6	2	1
SE	1.7	3.1	0	1
SSE	1.0	3.0	0	0
S	.8	2.4	0	0
SSW	1.2	2.6	0	1
SW	1.3	3.0	28	13
WSW	1.4	3.0	26	8
W	1.3	2.6	3	18
WNW	1.3	2.7	25	45
NW	1.2	2.5	6	9
NNW	1.1	2.5	7	3
N	.8	2.1	0	0

TABLE E-50
EFFECTIVE WIND SPEED RATIOS

LOCATION 62

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.2	2.4	0	0
NE	1.3	2.9	5	2
ENE	1.3	3.1	0	6
E	1.5	2.8	0	3
ESE	1.8	3.0	15	8
SE	1.5	2.7	0	0
SSE	1.5	3.1	0	1
S	1.7	3.3	6	4
SSW	1.4	2.9	0	1
SW	1.2	2.8	5	2
WSW	1.6	3.8	29	10
W	1.5	3.6	4	23
WNW	1.3	2.8	13	18
NW	1.2	2.5	2	2
NNW	1.5	3.2	19	16
N	1.0	2.2	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.3	0	0
NE	.8	2.1	1	0
ENE	1.0	2.4	0	1
E	.9	2.5	0	0
ESE	.6	1.6	0	0
SE	.6	1.5	0	0
SSE	.6	1.8	0	0
S	.6	1.9	0	0
SSW	.8	1.7	0	0
SW	.1	1.7	0	0
WSW	.7	1.7	0	0
W	1.4	2.3	18	24
WNW	1.3	2.6	36	34
NW	1.5	2.3	45	41
NNW	.8	1.9	1	0
N	.8	1.9	0	0

LOCATION 64

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	1.4	0	0
NE	.6	1.4	1	0
ENE	.6	1.4	0	0
E	1.0	2.3	0	3
ESE	1.3	2.3	29	24
SE	.8	1.6	0	0
SSE	.4	1.5	0	0
S	.6	1.6	0	0
SSW	.5	1.5	0	0
SW	.7	1.7	2	2
WSW	1.2	2.4	51	33
W	.9	2.2	0	11
WNW	.8	2.1	9	20
NW	.6	2.1	0	0
NNW	.8	2.1	8	6
N	.8	1.5	0	1

LOCATION 65

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.3	2.1	3	2
NE	1.2	2.0	13	6
ENE	.7	1.5	0	0
E	.4	1.4	0	0
ESE	.8	1.7	0	0
SE	.5	1.4	0	0
SSE	.1	1.2	0	0
S	.3	1.4	0	0
SSW	.8	1.7	0	0
SW	.6	1.5	0	0
WSW	.9	2.0	4	0
W	1.5	2.4	74	92
WNW	.7	1.8	0	0
NW	.7	2.1	0	0
NNW	1.0	1.8	8	1
N	1.0	1.9	0	1

LOCATION 66

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.3	2.2	2	2
NE	.6	1.6	0	0
ENE	.4	1.3	0	0
E	.8	1.9	0	0
ESE	1.5	2.5	15	6
SE	1.3	2.2	0	0
SSE	.7	1.8	0	0
S	.4	1.6	0	0
SSW	.9	1.9	0	0
SW	1.2	2.2	14	4
WSW	.8	1.9	0	0
W	1.4	2.5	16	39
WNW	1.0	1.9	5	2
NW	1.0	2.1	2	2
NNW	1.5	2.3	40	35
N	1.4	2.2	2	9

LOCATION 67

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.5	2.4	2	2
NE	.9	1.9	1	0
ENE	.6	1.6	0	0
E	.7	1.6	0	0
ESE	1.3	2.2	2	0
SE	1.1	2.1	0	0
SSE	1.0	2.0	0	0
S	.7	1.9	0	0
SSW	1.3	2.2	0	1
SW	1.2	2.6	10	2
WSW	.7	1.8	0	0
W	1.5	2.5	35	29
WNW	.9	2.0	1	0
NW	1.3	2.4	11	9
NNW	1.7	2.7	49	42
N	1.6	2.4	6	15

LOCATION 68

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	1.7	0	1
NE	.3	1.3	0	0
ENE	.5	1.4	0	0
E	1.1	2.3	0	3
ESE	1.5	2.7	29	21
SE	1.2	2.2	0	0
SSE	.8	1.9	0	0
S	.1	1.6	0	0
SSW	.6	1.9	0	0
SW	1.2	2.3	35	21
WSW	.6	1.7	0	0
W	.9	2.2	0	4
WNW	.7	1.7	0	0
NW	.8	1.9	0	1
NNW	1.3	2.1	34	43
N	1.1	1.8	0	6

LOCATION 69

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	1.5	0	0
NE	.6	1.4	1	0
ENE	.6	1.5	0	0
E	1.0	2.2	0	3
ESE	1.4	2.7	34	27
SE	1.1	2.3	0	0
SSE	.7	1.9	0	0
S	.6	1.8	0	0
SSW	.9	2.1	0	0
SW	1.1	2.5	46	30
WSW	.8	1.9	2	0
W	1.0	2.0	3	26
WNW	.6	1.5	0	0
NW	.5	1.6	0	0
NNW	1.0	1.7	14	13
N	.7	1.6	0	0

LOCATION 70

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.1	2.0	1	1
NE	1.0	1.8	5	1
ENE	.8	1.8	0	1
E	.7	1.7	0	0
ESE	1.2	2.1	4	1
SE	1.1	2.0	0	0
SSE	.8	1.8	0	0
S	.6	1.8	0	0
SSW	1.2	2.3	0	1
SW	1.1	2.1	17	5
WSW	.6	1.5	0	0
W	1.2	2.2	7	20
WNW	.6	1.6	0	0
NW	1.1	2.1	6	5
NNW	1.5	2.4	58	57
N	1.3	2.1	2	7

TABLE E-51
MEAN WIND SPEED RATIOS

LOCATION 62

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.2	2.4	0	0
NE	1.3	2.9	4	2
ENE	1.3	3.1	1	7
E	1.5	2.8	0	1
ESE	1.8	3.0	3	1
SE	1.5	2.7	0	0
SSE	1.5	3.1	0	0
S	1.7	3.3	3	4
SSW	1.4	2.9	0	1
SW	1.2	2.8	6	2
WSW	1.6	3.8	42	16
W	1.5	3.6	17	49
WNW	1.3	2.8	9	10
NW	1.2	2.5	1	1
NNW	1.5	3.2	13	7
N	1.0	2.2	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.3	0	0
NE	.8	2.1	3	0
ENE	1.0	2.4	1	5
E	.9	2.5	0	1
ESE	.6	1.6	0	0
SE	.6	1.5	0	0
SSE	.6	1.8	0	0
S	.6	1.9	0	0
SSW	.8	1.7	0	0
SW	.1	1.7	0	0
WSW	.7	1.7	0	0
W	1.4	2.3	14	22
WNW	1.3	2.6	34	33
NW	1.5	2.3	41	39
NNW	.8	1.9	6	1
N	.8	1.9	0	0

LOCATION 64

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	1.4	0	0
NE	.6	1.4	1	0
ENE	.6	1.4	0	0
E	1.0	2.3	0	3
ESE	1.3	2.3	15	8
SE	.8	1.6	0	0
SSE	.4	1.5	0	0
S	.6	1.6	0	0
SSW	.5	1.5	0	0
SW	.7	1.7	3	1
WSW	1.2	2.4	43	18
W	.9	2.2	4	24
WNW	.8	2.1	17	28
NW	.6	2.1	5	8
NNW	.8	2.1	12	8
N	.8	1.5	0	0

LOCATION 65

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.3	2.1	2	1
NE	1.2	2.0	10	4
ENE	.7	1.5	0	1
E	.4	1.4	0	0
ESE	.8	1.7	0	0
SE	.5	1.4	0	0
SSE	.1	1.2	0	0
S	.3	1.4	0	0
SSW	.8	1.7	0	0
SW	.6	1.5	0	0
WSW	.9	2.0	9	1
W	1.5	2.4	61	86
WNW	.7	1.8	6	2
NW	.7	2.1	4	2
NNW	1.0	1.8	9	2
N	1.0	1.9	0	1

LOCATION 66

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.3	2.2	2	2
NE	.6	1.6	1	0
ENE	.4	1.3	0	0
E	.8	1.9	0	0
ESE	1.5	2.5	9	3
SE	1.3	2.2	0	0
SSE	.7	1.8	0	0
S	.4	1.6	0	0
SSW	.9	1.9	0	0
SW	1.2	2.2	19	6
WSW	.8	1.9	1	0
W	1.4	2.5	27	55
WNW	1.0	1.9	7	4
NW	1.0	2.1	7	7
NNW	1.5	2.3	27	12
N	1.4	2.2	1	4

LOCATION 67

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.5	2.4	3	2
NE	.9	1.9	2	0
ENE	.6	1.6	0	0
E	.7	1.6	0	0
ESE	1.3	2.2	1	0
SE	1.1	2.1	0	0
SSE	1.0	2.0	0	0
S	.7	1.9	0	0
SSW	1.3	2.2	0	1
SW	1.2	2.6	9	2
WSW	.7	1.8	0	0
W	1.5	2.5	19	36
WNW	.9	2.0	4	1
NW	1.3	2.4	16	18
NNW	1.7	2.2	39	30
N	1.6	2.4	3	9

LOCATION 68

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	1.7	0	1
NE	.3	1.3	0	0
ENE	.5	1.4	0	0
E	1.1	2.3	0	5
ESE	1.5	2.7	28	18
SE	1.2	2.2	0	0
SSE	.8	1.9	0	0
S	.1	1.6	0	0
SSW	.6	1.9	0	0
SW	1.2	2.3	38	21
WSW	.6	1.7	1	0
W	.9	2.2	4	23
WNW	.7	1.7	2	1
NW	.8	1.9	5	8
NNW	1.3	2.1	22	20
N	1.1	1.8	0	3

LOCATION 69

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	1.5	0	0
NE	.6	1.4	0	0
ENE	.6	1.5	0	1
E	1.0	2.2	0	4
ESE	1.4	2.7	33	26
SE	1.1	2.3	0	1
SSE	.7	1.9	0	0
S	.6	1.8	0	0
SSW	.9	2.1	0	2
SW	1.1	2.5	51	33
WSW	.8	1.9	3	1
W	1.0	2.0	4	29
WNW	.6	1.5	0	0
NW	.5	1.6	0	0
NNW	1.0	1.7	6	4
N	.7	1.6	0	1

LOCATION 70

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.1	2.0	0	0
NE	1.0	1.9	4	1
ENE	.8	1.8	0	2
E	.7	1.7	0	0
ESE	1.2	2.1	2	1
SE	1.1	2.0	0	0
SSE	.8	1.8	0	0
S	.6	1.8	0	0
SSW	1.2	2.3	2	2
SW	1.1	2.1	15	6
WSW	.6	1.5	0	0
W	1.2	2.2	12	30
WNW	.6	1.6	0	0
NW	1.1	2.1	13	15
NNW	1.5	2.4	42	38
N	1.3	2.1	1	5

TABLE E-52
EFFECTIVE WIND SPEED RATIOS

LOCATION 71					LOCATION 0					LOCATION 0				
WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	1.9	1	1	NNE	.0	.0	0	0	NNE	.0	.0	0	0
NE	1.1	1.9	9	5	NE	.0	.0	0	0	NE	.0	.0	0	0
ENE	.9	1.6	0	3	ENE	.0	.0	0	0	ENE	.0	.0	0	0
E	.6	1.8	0	0	E	.0	.0	0	0	E	.0	.0	0	0
ESE	1.1	2.3	5	3	ESE	.0	.0	0	0	ESE	.0	.0	0	0
SE	1.0	2.0	0	0	SE	.0	.0	0	0	SE	.0	.0	0	0
SSE	.8	1.9	0	0	SSE	.0	.0	0	0	SSE	.0	.0	0	0
S	.8	2.2	0	0	S	.0	.0	0	0	S	.0	.0	0	0
SSW	1.3	2.8	8	6	SSW	.0	.0	0	0	SSW	.0	.0	0	0
SW	1.1	2.4	31	17	SW	.0	.0	0	0	SW	.0	.0	0	0
WSW	.6	1.6	0	0	WSW	.0	.0	0	0	WSW	.0	.0	0	0
W	1.0	1.8	1	9	W	.0	.0	0	0	W	.0	.0	0	0
WNW	.3	1.3	0	0	WNW	.0	.0	0	0	WNW	.0	.0	0	0
NW	.7	1.7	0	0	NW	.0	.0	0	0	NW	.0	.0	0	0
NNW	1.3	2.0	38	45	NNW	.0	.0	0	0	NNW	.0	.0	0	0
N	1.1	1.8	1	9	N	.0	.0	0	0	N	.0	.0	0	0

TABLE E-53
MEAN WIND SPEED RATIOS

LOCATION 71					LOCATION 0					LOCATION 0				
WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	1.9	0	1	NNE	.0	.0	0	0	NNE	.0	.0	0	0
NE	1.1	1.9	6	4	NE	.0	.0	0	0	NE	.0	.0	0	0
ENE	.9	1.6	0	3	ENE	.0	.0	0	0	ENE	.0	.0	0	0
E	.6	1.8	0	0	E	.0	.0	0	0	E	.0	.0	0	0
ESE	1.1	2.3	6	5	ESE	.0	.0	0	0	ESE	.0	.0	0	0
SE	1.0	2.0	0	0	SE	.0	.0	0	0	SE	.0	.0	0	0
SSE	.8	1.9	0	0	SSE	.0	.0	0	0	SSE	.0	.0	0	0
S	.8	2.2	1	2	S	.0	.0	0	0	S	.0	.0	0	0
SSW	1.3	2.8	18	11	SSW	.0	.0	0	0	SSW	.0	.0	0	0
SW	1.1	2.4	44	30	SW	.0	.0	0	0	SW	.0	.0	0	0
WSW	.6	1.6	0	0	WSW	.0	.0	0	0	WSW	.0	.0	0	0
W	1.0	1.8	0	10	W	.0	.0	0	0	W	.0	.0	0	0
WNW	.3	1.3	0	0	WNW	.0	.0	0	0	WNW	.0	.0	0	0
NW	.7	1.7	1	3	NW	.0	.0	0	0	NW	.0	.0	0	0
NNW	1.3	2.0	22	26	NNW	.0	.0	0	0	NNW	.0	.0	0	0
N	1.1	1.8	0	4	N	.0	.0	0	0	N	.0	.0	0	0

TABLE E-54
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.8	0
NE	.9	2.0	0
ENE	.9	2.1	0
E	1.4	2.6	0
ESE	1.8	2.8	1
SE	1.5	2.6	0
SSE	1.0	2.5	0
S	.8	2.4	0
SSW	.8	2.2	0
SW	1.7	3.5	8
WSW	3.0	4.6	71
W	1.8	3.6	11
WNW	1.4	2.8	2
NW	1.6	2.8	7
NNW	.8	2.1	0
N	.9	2.0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	3.0	2
NE	1.5	2.9	22
ENE	1.0	2.4	3
E	.8	2.0	0
ESE	1.1	2.4	1
SE	.7	2.2	0
SSE	.4	2.0	0
S	.7	2.1	0
SSW	.8	2.8	0
SW	1.2	3.3	14
WSW	1.8	3.3	58
W	.9	2.5	1
WNW	.5	1.9	0
NW	.7	2.4	0
NNW	.4	1.9	0
N	.7	2.4	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.7	0
NE	.5	1.9	0
ENE	.6	1.8	0
E	.4	1.7	0
ESE	.9	2.1	0
SE	.8	2.0	0
SSE	.5	1.8	0
S	.7	2.3	0
SSW	.5	2.2	0
SW	1.1	2.7	1
WSW	2.1	3.4	41
W	1.5	2.8	12
WNW	1.4	2.9	15
NW	1.5	2.7	29
NNW	1.1	2.3	1
N	1.1	2.8	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.0	0
NE	1.3	2.8	0
ENE	1.5	2.9	2
E	1.7	3.2	1
ESE	2.2	3.3	10
SE	1.7	2.7	0
SSE	1.3	2.6	0
S	1.2	2.9	0
SSW	.8	2.2	0
SW	1.5	3.2	4
WSW	2.7	4.4	58
W	1.6	3.3	7
WNW	1.4	2.8	3
NW	1.6	2.9	13
NNW	.6	1.8	0
N	.6	2.0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.4	0
NE	1.5	2.9	20
ENE	1.3	2.9	10
E	.6	2.1	0
ESE	1.1	2.3	1
SE	.8	2.0	0
SSE	.8	1.8	0
S	.6	1.9	0
SSW	.5	2.2	0
SW	1.2	3.1	16
WSW	1.7	3.6	40
W	.8	2.5	0
WNW	1.0	2.8	5
NW	.9	2.9	5
NNW	.8	2.1	0
N	.6	2.5	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.7	0
NE	.5	2.2	0
ENE	.6	1.8	0
E	.4	1.7	0
ESE	.9	2.3	0
SE	.9	2.0	0
SSE	.8	1.9	0
S	.8	2.1	0
SSW	.8	2.3	0
SW	.9	2.3	0
WSW	2.3	3.8	44
W	1.6	3.1	11
WNW	1.4	2.9	13
NW	1.6	3.1	32
NNW	.9	2.4	0
N	.7	2.3	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.8	0
NE	1.1	2.5	0
ENE	1.4	2.7	1
E	2.2	3.5	5
ESE	2.6	3.5	21
SE	1.9	3.1	0
SSE	1.3	2.8	0
S	1.2	2.7	0
SSW	.9	2.4	0
SW	1.8	3.6	12
WSW	2.8	4.5	50
W	1.8	3.3	10
WNW	1.4	2.7	1
NW	1.2	2.2	0
NNW	.6	1.9	0
N	.9	1.9	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.5	0
NE	1.6	3.0	26
ENE	1.3	2.6	10
E	.6	2.0	0
ESE	1.0	2.4	0
SE	1.1	2.1	0
SSE	.7	1.8	0
S	.5	1.8	0
SSW	.6	2.1	0
SW	1.1	2.9	8
WSW	1.7	3.9	40
W	1.0	3.2	2
WNW	.9	2.9	4
NW	.9	2.8	4
NNW	1.0	3.0	7
N	.9	2.7	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.6	0
NE	.9	2.1	0
ENE	.7	1.8	0
E	.7	1.7	0
ESE	.8	1.8	0
SE	.9	1.8	0
SSE	.8	2.1	0
S	1.1	2.5	0
SSW	1.3	2.8	0
SW	1.1	2.8	0
WSW	2.5	4.1	29
W	2.0	3.4	10
WNW	1.7	3.0	19
NW	1.6	3.0	11
NNW	1.4	3.5	2
N	1.5	3.2	0

TABLE E-55

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.8	0
NE	.9	2.0	0
ENE	.9	2.1	0
E	1.4	2.6	0
ESE	1.8	2.8	0
SE	1.5	2.6	0
SSE	1.0	2.5	0
S	.8	2.4	0
SSW	.8	2.2	0
SW	1.7	3.5	20
WSW	3.0	4.6	50
W	1.8	3.6	18
WNW	1.4	2.8	4
NW	1.6	2.8	8
NNW	.8	2.1	0
N	.9	2.0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	3.0	3
NE	1.5	2.9	13
ENE	1.0	2.4	4
E	.8	2.0	0
ESE	1.1	2.4	0
SE	.7	2.2	0
SSE	.4	2.0	0
S	.7	2.1	0
SSW	.8	2.8	0
SW	1.2	3.3	30
WSW	1.8	3.3	35
W	.9	2.5	5
WNW	.5	1.9	0
NW	.7	2.4	2
NNW	.4	1.9	0
N	.7	2.4	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.7	0
NE	.5	1.9	0
ENE	.6	1.8	0
E	.4	1.7	0
ESE	.9	2.1	0
SE	.8	2.0	0
SSE	.5	1.8	0
S	.7	2.3	0
SSW	.5	2.2	0
SW	1.1	2.7	7
WSW	2.1	3.4	27
W	1.5	2.8	15
WNW	1.4	2.9	24
NW	1.5	2.7	24
NNW	1.1	2.3	2
N	1.1	2.8	1

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.0	0
NE	1.3	2.8	1
ENE	1.5	2.9	2
E	1.7	3.2	1
ESE	2.2	3.3	3
SE	1.7	2.7	0
SSE	1.3	2.6	0
S	1.2	2.9	0
SSW	.8	2.2	0
SW	1.5	3.2	12
WSW	2.7	4.4	44
W	1.6	3.3	15
WNW	1.4	2.8	6
NW	1.6	2.9	15
NNW	.6	1.8	0
N	.6	2.0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.4	0
NE	1.5	2.9	12
ENE	1.3	2.9	9
E	.6	2.1	0
ESE	1.1	2.3	0
SE	.8	2.0	0
SSE	.8	1.8	0
S	.6	1.9	0
SSW	.5	2.2	0
SW	1.2	3.1	27
WSW	1.7	3.6	24
W	.8	2.5	1
WNW	1.0	2.8	13
NW	.9	2.9	13
NNW	.8	2.1	1
N	.6	2.5	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.7	0
NE	.5	2.2	0
ENE	.6	1.8	0
E	.4	1.7	0
ESE	.9	2.3	0
SE	.9	2.0	0
SSE	.8	1.9	0
S	.8	2.1	0
SSW	.8	2.3	0
SW	.9	2.3	1
WSW	2.3	3.8	29
W	1.6	3.1	18
WNW	1.4	2.9	15
NW	1.6	3.1	35
NNW	.9	2.4	1
N	.7	2.3	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.8	0
NE	1.1	2.5	0
ENE	1.4	2.7	1
E	2.2	3.5	6
ESE	2.6	3.5	9
SE	1.9	3.1	0
SSE	1.3	2.8	0
S	1.2	2.7	0
SSW	.9	2.4	0
SW	1.8	3.6	22
WSW	2.8	4.5	43
W	1.8	3.3	16
WNW	1.4	2.7	3
NW	1.2	2.2	1
NNW	.6	1.9	0
N	.9	1.9	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.5	0
NE	1.6	3.0	15
ENE	1.3	2.6	5
E	.6	2.0	0
ESE	1.0	2.4	0
SE	1.1	2.1	0
SSE	.7	1.8	0
S	.5	1.8	0
SSW	.6	2.1	0
SW	1.1	2.9	17
WSW	1.7	3.9	27
W	1.0	3.2	6
WNW	.9	2.9	11
NW	.9	2.8	8
NNW	1.0	3.0	10
N	.9	2.7	1

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.6	0
NE	.9	2.1	0
ENE	.7	1.8	0
E	.7	1.7	0
ESE	.8	1.8	0
SE	.9	1.8	0
SSE	.8	2.1	0
S	1.1	2.5	0
SSW	1.3	2.8	0
SW	1.1	2.8	3
WSW	2.5	4.1	30
W	2.0	3.4	25
WNW	1.7	3.0	16
NW	1.6	3.0	15
NNW	1.4	3.5	9
N	1.5	3.2	2

TABLE E-56

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	.8	1.8	5
ENE	.9	2.1	10
E	.8	1.8	2
ESE	.5	1.7	0
SE	.1	1.6	0
SSE	.5	2.0	0
S	.8	2.3	3
SSW	.9	2.6	3
SW	1.0	2.4	69
WSW	.5	1.7	0
W	.6	2.4	1
WNW	.4	1.7	0
NW	.6	1.8	7
NNW	.5	1.6	0
N	.4	1.9	0

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.5	0
NE	.6	1.9	0
ENE	.5	1.8	0
E	.5	1.8	0
ESE	.5	1.7	0
SE	.6	1.7	0
SSE	.3	1.9	0
S	.5	1.7	0
SSW	.5	2.1	0
SW	1.2	2.4	17
WSW	1.5	2.8	24
W	1.1	2.4	6
WNW	1.1	2.5	21
NW	1.2	2.4	28
NNW	.8	1.9	1
N	1.2	3.2	3

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	1.5	0
NE	.4	1.5	1
ENE	.5	2.0	4
E	.7	1.8	11
ESE	.6	2.0	5
SE	.7	1.9	2
SSE	.1	1.8	0
S	.4	1.8	0
SSW	.5	1.5	0
SW	.6	1.9	28
WSW	.2	1.4	0
W	.1	1.5	0
WNW	.5	1.4	34
NW	.4	1.6	4
NNW	.5	1.7	13
N	.1	1.5	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.4	0
NE	.9	2.3	7
ENE	1.1	2.4	17
E	.4	1.9	0
ESE	.1	1.7	0
SE	.1	1.8	0
SSE	.8	1.9	0
S	.5	2.2	0
SSW	.9	2.6	1
SW	1.0	2.4	40
WSW	.7	1.6	0
W	.6	1.5	0
WNW	.7	1.7	3
NW	.9	1.8	32
NNW	.4	1.9	0
N	.7	2.3	0

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.5	0
NE	.8	2.2	0
ENE	.9	2.0	0
E	.5	1.7	0
ESE	.1	1.7	0
SE	.1	1.5	0
SSE	.6	1.5	0
S	.1	1.6	0
SSW	.7	2.0	0
SW	1.0	2.2	1
WSW	1.8	3.3	22
W	1.3	3.2	6
WNW	1.4	2.8	29
NW	1.5	3.1	42
NNW	.8	2.4	0
N	.9	2.5	0

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.5	0
NE	.6	1.7	4
ENE	.7	1.6	9
E	.7	1.7	2
ESE	.1	1.9	0
SE	.3	1.7	0
SSE	.7	1.9	0
S	.1	1.7	0
SSW	.5	1.5	0
SW	.6	1.5	5
WSW	.6	1.3	1
W	.5	1.4	0
WNW	.7	1.6	30
NW	.7	1.6	47
NNW	.4	1.4	0
N	.7	1.5	2

2000 FULL-BUILD PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.7	0
NE	1.4	2.7	13
ENE	.9	2.1	1
E	.7	1.9	0
ESE	.5	1.8	0
SE	.3	1.6	0
SSE	.3	1.8	0
S	1.0	2.4	0
SSW	1.3	2.9	2
SW	1.1	2.3	5
WSW	.9	2.3	0
W	1.1	2.3	5
WNW	1.0	2.2	7
NW	1.0	2.2	5
NNW	1.6	3.6	61
N	1.2	2.7	2

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.4	0
NE	1.4	2.7	2
ENE	.9	2.2	0
E	.6	1.8	0
ESE	.8	1.9	0
SE	.7	1.9	0
SSE	.6	1.8	0
S	1.0	2.6	0
SSW	1.6	2.9	1
SW	1.3	2.6	3
WSW	2.0	3.5	24
W	1.8	3.5	35
WNW	1.5	3.0	27
NW	1.2	2.7	5
NNW	1.1	3.0	1
N	1.5	3.2	2

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.9	0
NE	.6	1.4	1
ENE	.5	1.5	1
E	1.0	2.2	20
ESE	1.1	2.2	32
SE	.8	1.9	1
SSE	.6	2.0	0
S	.4	1.8	0
SSW	.4	1.8	0
SW	.5	1.5	0
WSW	.6	1.5	0
W	.5	1.4	0
WNW	.6	1.5	3
NW	.2	1.5	0
NNW	.7	2.0	13
N	1.1	2.3	29

TABLE E-57

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	1
NE	.8	1.8	4
ENE	.9	2.1	5
E	.8	1.8	1
ESE	.5	1.7	0
SE	.1	1.6	0
SSE	.5	2.0	0
S	.8	2.3	7
SSW	.9	2.6	8
SW	1.0	2.4	62
WSW	.5	1.7	0
W	.6	2.4	6
WNW	.4	1.7	3
NW	.6	1.8	1
NNW	.5	1.6	0
N	.4	1.9	0

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.5	0
NE	.6	1.9	0
ENE	.5	1.8	0
E	.5	1.8	0
ESE	.5	1.7	0
SE	.6	1.7	0
SSE	.3	1.9	0
S	.5	1.7	0
SSW	.5	2.1	0
SW	1.2	2.4	16
WSW	1.5	2.8	17
W	1.1	2.4	9
WNW	1.1	2.5	22
NW	1.2	2.4	25
NNW	.8	1.9	1
N	1.2	3.2	9

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	1.5	0
NE	.4	1.5	0
ENE	.5	2.0	3
E	.7	1.8	3
ESE	.6	2.0	16
SE	.7	1.9	1
SSE	.1	1.8	0
S	.4	1.8	3
SSW	.5	1.5	0
SW	.6	1.9	28
WSW	.2	1.4	0
W	.1	1.5	5
WNW	.5	1.4	41
NW	.4	1.6	0
NNW	.5	1.7	0
N	.1	1.5	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.4	1
NE	.9	2.3	11
ENE	1.1	2.4	15
E	.4	1.9	0
ESE	.1	1.7	0
SE	.1	1.8	0
SSE	.8	1.9	0
S	.5	2.2	1
SSW	.9	2.6	6
SW	1.0	2.4	50
WSW	.7	1.6	0
W	.6	1.5	0
WNW	.7	1.7	1
NW	.9	1.8	12
NNW	.4	1.9	1
N	.7	2.3	1

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.5	0
NE	.8	2.2	0
ENE	.9	2.0	0
E	.5	1.7	0
ESE	.1	1.7	0
SE	.1	1.5	0
SSE	.6	1.5	0
S	.1	1.6	0
SSW	.7	2.0	0
SW	1.0	2.2	1
WSW	1.8	3.3	14
W	1.3	3.2	20
WNW	1.4	2.8	24
NW	1.5	3.1	40
NNW	.8	2.4	1
N	.9	2.5	0

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.5	1
NE	.6	1.7	4
ENE	.7	1.6	6
E	.7	1.7	4
ESE	.1	1.9	1
SE	.3	1.7	0
SSE	.7	1.9	1
S	.1	1.7	0
SSW	.5	1.5	0
SW	.6	1.5	12
WSW	.6	1.3	0
W	.5	1.4	1
WNW	.7	1.6	31
NW	.7	1.6	35
NNW	.4	1.4	4
N	.7	1.5	1

2000 FULL-BUILD PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.7	0
NE	1.4	2.7	8
ENE	.9	2.1	1
E	.7	1.9	0
ESE	.5	1.8	0
SE	.3	1.6	0
SSE	.3	1.8	0
S	1.0	2.4	0
SSW	1.3	2.9	2
SW	1.1	2.3	6
WSW	.9	2.3	0
W	1.1	2.3	4
WNW	1.0	2.2	5
NW	1.0	2.2	5
NNW	1.6	3.6	65
N	1.2	2.7	2

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.4	0
NE	1.4	2.7	2
ENE	.9	2.2	0
E	.6	1.8	0
ESE	.8	1.9	0
SE	.7	1.9	0
SSE	.6	1.8	0
S	1.0	2.6	0
SSW	1.6	2.9	1
SW	1.3	2.6	3
WSW	2.0	3.5	17
W	1.8	3.5	34
WNW	1.5	3.0	22
NW	1.2	2.7	10
NNW	1.1	3.0	7
N	1.5	3.2	3

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.9	0
NE	.6	1.4	0
ENE	.5	1.5	1
E	1.0	2.2	14
ESE	1.1	2.2	23
SE	.8	1.9	0
SSE	.6	2.0	0
S	.4	1.8	0
SSW	.4	1.8	0
SW	.5	1.5	2
WSW	.6	1.5	0
W	.5	1.4	0
WNW	.6	1.5	1
NW	.2	1.5	1
NNW	.7	2.0	36
N	1.1	2.3	21

TABLE E-58

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.2	3
NE	.7	1.8	5
ENE	.6	2.0	1
E	.6	2.1	0
ESE	.6	1.9	0
SE	.1	1.9	0
SSE	.5	1.8	0
S	.7	2.1	1
SSW	.8	2.2	2
SW	.6	1.7	6
WSW	.7	1.6	2
W	.8	1.7	41
WNW	.5	1.8	2
NW	.4	1.5	0
NNW	.5	1.7	2
N	1.2	2.3	36

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.3	6
NE	.1	1.6	0
ENE	.1	1.7	0
E	.1	1.5	0
ESE	.5	1.5	1
SE	.1	1.7	0
SSE	.1	1.6	0
S	.1	1.6	0
SSW	.7	1.8	11
SW	.1	1.4	0
WSW	.1	1.9	0
W	.6	1.7	49
WNW	.4	1.5	3
NW	.4	1.8	10
NNW	.5	2.0	21
N	.1	2.0	0

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.4	12
NE	.7	1.9	6
ENE	.8	2.3	16
E	.7	2.3	4
ESE	.7	2.3	3
SE	.5	1.7	0
SSE	.1	1.4	0
S	.1	1.6	0
SSW	.1	1.6	0
SW	.1	1.6	0
WSW	.1	1.5	0
W	.5	1.6	1
WNW	.5	1.6	4
NW	.7	1.7	28
NNW	.7	2.0	23
N	.7	2.4	4

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	1.2	2.7	34
ENE	1.0	2.3	15
E	1.0	2.3	7
ESE	.8	2.2	0
SE	.4	1.7	0
SSE	.5	1.8	0
S	.6	2.0	0
SSW	.7	2.2	0
SW	.7	1.8	5
WSW	.8	1.6	4
W	.8	1.7	8
WNW	.7	2.0	10
NW	.7	2.0	5
NNW	.7	1.9	8
N	.6	2.0	0

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	.8	1.9	3
ENE	.6	1.7	1
E	.6	1.9	0
ESE	.9	2.3	1
SE	.7	1.9	0
SSE	.6	1.7	0
S	.7	1.8	0
SSW	.7	1.8	0
SW	.6	1.5	1
WSW	.9	1.9	7
W	.9	2.4	14
WNW	.7	2.0	3
NW	.6	2.1	2
NNW	1.1	3.1	62
N	1.0	2.8	5

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.8	0
NE	.7	1.9	6
ENE	.1	1.7	0
E	.9	2.4	9
ESE	1.1	2.6	33
SE	.1	1.4	0
SSE	.5	1.5	0
S	.5	1.6	0
SSW	.5	1.4	0
SW	.5	1.3	0
WSW	.3	1.5	0
W	.5	1.8	1
WNW	.7	2.0	23
NW	.6	1.6	5
NNW	.5	2.4	1
N	1.1	3.1	24

2000 FULL-BUILD PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.0	0
NE	1.1	2.4	1
ENE	1.4	2.3	6
E	1.7	3.1	10
ESE	2.0	3.4	37
SE	1.4	2.8	0
SSE	.7	2.0	0
S	.7	2.4	0
SSW	1.1	2.3	0
SW	.6	2.0	0
WSW	.7	1.7	0
W	.8	1.6	0
WNW	.6	1.5	0
NW	.6	2.0	0
NNW	1.6	3.2	43
N	1.5	2.6	4

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	0
NE	.9	2.1	2
ENE	.8	1.8	1
E	1.0	1.9	1
ESE	1.6	2.9	43
SE	1.2	2.2	0
SSE	.7	1.9	0
S	.5	2.0	0
SSW	.7	1.9	0
SW	.3	1.9	0
WSW	.8	2.0	0
W	.8	2.1	1
WNW	.7	2.5	1
NW	.4	2.2	0
NNW	1.3	3.6	51
N	.8	2.3	0

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.9	0
NE	.4	1.8	0
ENE	.6	1.6	1
E	.5	2.0	0
ESE	1.0	2.4	16
SE	.5	1.6	0
SSE	.6	1.9	0
S	.3	1.7	0
SSW	.7	1.9	0
SW	.1	1.6	0
WSW	.5	1.6	0
W	.4	1.8	0
WNW	.5	1.6	0
NW	.8	2.3	52
NNW	.7	2.4	11
N	1.1	2.2	20

TABLE E-59

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.2	4
NE	.7	1.8	6
ENE	.6	2.0	5
E	.6	2.1	5
ESE	.6	1.9	2
SE	.1	1.9	0
SSE	.5	1.8	0
S	.7	2.1	5
SSW	.8	2.2	7
SW	.6	1.7	11
WSW	.7	1.6	2
W	.8	1.7	16
WNW	.5	1.8	12
NW	.4	1.5	0
NNW	.5	1.7	3
N	1.2	2.3	23

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.3	8
NE	.1	1.6	0
ENE	.1	1.7	0
E	.1	1.5	0
ESE	.5	1.5	0
SE	.1	1.7	0
SSE	.1	1.6	0
S	.1	1.6	17
SSW	.7	1.8	2
SW	.1	1.4	0
WSW	.1	1.9	38
W	.6	1.7	22
WNW	.4	1.5	9
NW	.4	1.8	0
NNW	.5	2.0	1
N	.1	2.0	2

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.4	10
NE	.7	1.9	8
ENE	.8	2.3	16
E	.7	2.3	8
ESE	.7	2.3	12
SE	.5	1.7	0
SSE	.1	1.4	0
S	.1	1.6	0
SSW	.1	1.6	0
SW	.1	1.6	0
WSW	.1	1.5	0
W	.5	1.6	1
WNW	.5	1.6	3
NW	.7	1.7	7
NNW	.7	2.0	17
N	.7	2.4	18

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	1.2	2.7	32
ENE	1.0	2.3	15
E	1.0	2.3	8
ESE	.8	2.2	2
SE	.4	1.7	0
SSE	.5	1.8	0
S	.6	2.0	0
SSW	.7	2.2	2
SW	.7	1.8	4
WSW	.8	1.6	0
W	.8	1.7	2
WNW	.7	2.0	12
NW	.7	2.0	12
NNW	.7	1.9	9
N	.6	2.0	0

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	.8	1.9	1
ENE	.6	1.7	0
E	.6	1.9	0
ESE	.9	2.3	1
SE	.7	1.9	0
SSE	.6	1.7	0
S	.7	1.8	0
SSW	.7	1.8	0
SW	.6	1.5	0
WSW	.9	1.9	1
W	.9	2.4	13
WNW	.7	2.0	3
NW	.6	2.1	4
NNW	1.1	3.1	70
N	1.0	2.8	6

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.8	0
NE	.7	1.9	4
ENE	.1	1.7	0
E	.9	2.4	8
ESE	1.1	2.6	27
SE	.1	1.4	0
SSE	.5	1.5	0
S	.5	1.6	0
SSW	.5	1.4	0
SW	.5	1.3	0
WSW	.3	1.5	0
W	.5	1.8	2
WNW	.7	2.0	4
NW	.6	1.6	2
NNW	.5	2.4	20
N	1.1	3.1	32

2000 FULL BUILD PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.0	0
NE	1.1	2.4	3
ENE	1.4	2.3	5
E	1.7	3.1	11
ESE	2.0	3.4	26
SE	1.4	2.8	0
SSE	.7	2.0	0
S	.7	2.4	0
SSW	1.1	2.3	0
SW	.6	2.0	0
WSW	.7	1.7	0
W	.8	1.6	0
WNW	.6	1.5	0
NW	.6	2.0	1
NNW	1.6	3.2	51
N	1.5	2.6	3

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	0
NE	.9	2.1	1
ENE	.8	1.8	0
E	1.0	1.9	0
ESE	1.6	2.9	13
SE	1.2	2.2	0
SSE	.7	1.9	0
S	.5	2.0	0
SSW	.7	1.9	0
SW	.3	1.9	0
WSW	.8	2.0	0
W	.8	2.1	3
WNW	.7	2.5	14
NW	.4	2.3	2
NNW	1.3	3.0	63
N	.8	2.3	0

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.9	0
NE	.4	1.8	1
ENE	.6	1.6	1
E	.5	2.0	1
ESE	1.0	2.4	12
SE	.5	1.6	0
SSE	.6	1.9	0
S	.3	1.7	0
SSW	.7	1.9	0
SW	.1	1.6	1
WSW	.5	1.6	0
W	.4	1.8	0
WNW	.5	1.6	1
NW	.8	2.3	46
NNW	.7	2.4	30
N	1.1	2.2	6

TABLE E-60

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.0	0
NE	1.0	1.9	24
ENE	1.1	2.4	31
E	.8	2.0	6
ESE	.9	2.5	14
SE	.6	2.0	0
SSE	.4	1.8	0
S	.5	1.7	0
SSW	.4	1.9	0
SW	.5	2.3	1
WSW	.7	1.8	2
W	.1	1.8	0
WNW	.5	2.0	0
NW	.5	1.8	1
NNW	.6	2.1	4
N	1.0	2.5	16

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.4	0
NE	1.7	3.0	32
ENE	1.6	3.3	27
E	1.3	3.5	6
ESE	1.7	3.6	34
SE	1.0	2.9	0
SSE	.5	2.1	0
S	.7	2.3	0
SSW	1.0	2.3	0
SW	.6	1.7	0
WSW	.1	1.8	0
W	.6	1.9	0
WNW	.6	1.8	0
NW	.5	1.8	0
NNW	.5	1.8	0
N	1.1	2.6	1

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.3	0
NE	.8	2.3	1
ENE	.7	2.1	0
E	.6	2.3	0
ESE	.6	1.7	0
SE	.7	1.7	0
SSE	.5	1.8	0
S	.4	1.8	0
SSW	.1	1.8	0
SW	.4	1.8	0
WSW	.6	2.2	0
W	.7	2.0	1
WNW	.5	1.8	0
NW	.8	1.8	9
NNW	1.3	2.6	72
N	1.3	2.7	17

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.2	2
NE	.6	2.0	0
ENE	.5	1.6	0
E	.7	2.0	0
ESE	.1	1.9	0
SE	.7	2.2	0
SSE	.7	2.0	0
S	.7	1.6	0
SSW	.8	1.7	0
SW	.6	1.7	0
WSW	.8	2.0	1
W	.8	2.1	1
WNW	.7	2.1	1
NW	.8	2.5	7
NNW	1.4	3.2	76
N	1.3	3.3	11

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.0	1
NE	1.2	2.9	13
ENE	1.5	2.9	30
E	1.4	2.9	12
ESE	1.0	2.8	0
SE	1.2	2.7	0
SSE	.8	2.4	0
S	.6	2.2	0
SSW	.9	2.2	0
SW	.6	1.8	0
WSW	1.1	2.3	6
W	.9	2.1	5
WNW	.5	1.6	0
NW	.6	1.8	0
NNW	1.1	2.7	22
N	1.3	3.5	8

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.7	0
NE	.8	2.3	1
ENE	.9	2.3	2
E	.9	2.3	0
ESE	.8	2.1	0
SE	.6	1.6	0
SSE	.3	1.5	0
S	.8	2.0	0
SSW	1.2	2.4	3
SW	.7	1.9	0
WSW	.8	2.2	0
W	.9	2.7	2
WNW	.5	2.3	0
NW	.6	2.1	0
NNW	1.4	3.8	51
N	1.8	4.2	41

2000 FULL-BUILD PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.4	0
NE	1.0	2.3	1
ENE	.9	2.0	0
E	.6	1.8	0
ESE	.9	2.3	0
SE	1.5	2.6	1
SSE	1.1	2.2	0
S	.8	1.8	0
SSW	1.0	2.0	0
SW	.8	2.4	0
WSW	1.0	2.4	0
W	.9	2.7	0
WNW	.7	2.0	0
NW	1.1	2.5	10
NNW	1.9	3.4	86
N	1.2	2.2	1

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.7	0
NE	1.6	2.6	17
ENE	1.6	2.6	16
E	1.5	2.9	6
ESE	1.8	3.3	33
SE	1.4	3.0	0
SSE	1.0	2.5	0
S	.7	2.2	0
SSW	1.2	2.4	0
SW	.9	2.4	1
WSW	1.3	2.6	5
W	1.0	2.5	1
WNW	.3	1.5	0
NW	.8	1.8	1
NNW	1.3	2.5	18
N	.7	1.8	0

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.8	2
NE	.8	2.3	0
ENE	1.0	2.5	2
E	.9	2.4	0
ESE	.9	2.0	0
SE	1.0	2.3	0
SSE	1.1	2.4	0
S	1.1	2.6	2
SSW	1.3	2.5	3
SW	.9	2.3	3
WSW	1.2	2.9	9
W	1.2	2.9	29
WNW	1.0	2.8	19
NW	1.1	3.0	24
NNW	1.0	2.2	7
N	.8	2.8	0

TABLE E-61

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.0	0
NE	1.0	1.9	10
ENE	1.1	2.4	18
E	.8	2.0	5
ESE	.9	2.5	17
SE	.6	2.0	0
SSE	.4	1.8	0
S	.5	1.7	0
SSW	.4	1.9	0
SW	.5	2.3	8
WSW	.7	1.8	2
W	.1	1.8	0
WNW	.5	2.0	13
NW	.5	1.8	4
NNW	.6	2.1	3
N	1.0	2.5	18

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.4	0
NE	1.7	3.0	21
ENE	1.6	3.3	23
E	1.3	3.5	14
ESE	1.7	3.6	39
SE	1.0	2.9	0
SSE	.5	2.1	0
S	.7	2.3	0
SSW	1.0	2.3	0
SW	.6	1.7	0
WSW	.1	1.8	0
W	.6	1.9	0
WNW	.6	1.8	0
NW	.5	1.8	0
NNW	.5	1.8	0
N	1.1	2.6	2

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.3	0
NE	.8	2.3	4
ENE	.7	2.1	2
E	.6	2.3	1
ESE	.6	1.7	0
SE	.7	1.7	0
SSE	.5	1.8	0
S	.4	1.8	0
SSW	.1	1.8	0
SW	.4	1.8	0
WSW	.6	2.2	1
W	.7	2.0	7
WNW	.5	1.8	2
NW	.8	1.8	10
NNW	1.3	2.6	55
N	1.3	2.7	17

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.2	1
NE	.6	2.0	0
ENE	.5	1.6	0
E	.7	2.0	0
ESE	.1	1.9	0
SE	.7	2.2	0
SSE	.7	2.0	0
S	.7	1.6	0
SSW	.8	1.7	0
SW	.6	1.7	0
WSW	.8	2.0	0
W	.8	2.1	2
WNW	.7	2.1	2
NW	.8	2.5	15
NNW	1.4	3.2	67
N	1.3	3.3	13

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.0	0
NE	1.2	2.9	14
ENE	1.5	2.9	23
E	1.4	2.9	12
ESE	1.0	2.8	3
SE	1.2	2.7	0
SSE	.8	2.4	0
S	.6	2.2	0
SSW	.9	2.2	0
SW	.6	1.8	0
WSW	1.1	2.3	4
W	.9	2.1	6
WNW	.5	1.6	0
NW	.6	1.8	0
NNW	1.1	2.7	20
N	1.3	3.5	16

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.7	0
NE	.8	2.3	0
ENE	.9	2.3	1
E	.9	2.3	0
ESE	.8	2.1	0
SE	.6	1.6	0
SSE	.3	1.5	0
S	.8	2.0	0
SSW	1.2	2.4	0
SW	.7	1.9	0
WSW	.8	2.2	0
W	.9	2.7	7
WNW	.5	2.3	1
NW	.6	2.1	1
NNW	1.4	3.8	61
N	1.8	4.2	29

2000 FULL-BUILD PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.4	0
NE	1.0	2.3	1
ENE	.9	2.0	0
E	.6	1.8	0
ESE	.9	2.3	0
SE	1.5	2.6	0
SSE	1.1	2.2	0
S	.8	1.8	0
SSW	1.0	2.0	0
SW	.8	2.4	2
WSW	1.0	2.4	1
W	.9	2.7	6
WNW	.7	2.0	1
NW	1.1	2.5	20
NNW	1.9	3.4	68
N	1.2	2.2	0

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.7	0
NE	1.6	2.6	11
ENE	1.6	2.6	11
E	1.5	2.9	9
ESE	1.8	3.3	26
SE	1.4	3.0	1
SSE	1.0	2.5	0
S	.7	2.2	0
SSW	1.2	2.4	1
SW	.9	2.4	8
WSW	1.3	2.6	7
W	1.0	2.5	9
WNW	.3	1.5	0
NW	.8	1.8	1
NNW	1.3	2.5	16
N	.7	1.6	0

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.8	1
NE	.8	2.3	1
ENE	1.0	2.5	1
E	.9	2.4	0
ESE	.9	2.0	0
SE	1.0	2.3	0
SSE	1.1	2.4	0
S	1.1	2.6	1
SSW	1.3	2.5	1
SW	.9	2.3	3
WSW	1.2	2.9	5
W	1.2	2.9	22
WNW	1.0	2.8	29
NW	1.1	3.0	30
NNW	1.0	2.2	4
N	.8	2.8	2

TABLE E-62

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 13

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.9	2.3	1
NE	.8	2.0	1
ENE	.7	1.9	0
E	.6	1.9	0
ESE	.2	1.7	0
SE	.7	2.0	0
SSE	.1	1.8	0
S	.1	1.9	0
SSW	.5	1.8	0
SW	1.1	2.3	35
WSW	.1	1.7	0
W	.6	2.1	0
WNW	.6	1.7	0
NW	1.0	2.2	31
NNW	.8	2.4	8
N	1.4	2.8	23

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	1
NE	.9	1.9	6
ENE	.9	2.0	8
E	.7	1.8	0
ESE	.6	1.6	0
SE	.7	2.1	0
SSE	.4	2.0	0
S	.6	1.9	0
SSW	.4	1.8	0
SW	.7	1.8	1
WSW	.7	1.7	0
W	.6	2.4	0
WNW	.4	1.8	0
NW	.6	1.8	0
NNW	1.2	2.5	78
N	.9	2.7	4

LOCATION 15

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	0
NE	.9	2.2	7
ENE	1.0	2.1	9
E	.9	2.2	2
ESE	1.0	2.3	4
SE	.9	2.4	0
SSE	.7	2.1	0
S	.8	2.2	1
SSW	.9	2.1	2
SW	.7	1.9	1
WSW	.7	2.0	0
W	.6	2.1	0
WNW	.9	1.9	25
NW	.7	1.9	3
NNW	.8	2.2	9
N	1.4	2.9	35

1995 INTERIM BUILD PRE-MITIGATION

LOCATION 13

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.5	3.7	14
NE	.6	2.2	0
ENE	.7	2.0	0
E	.7	1.8	0
ESE	.3	1.9	0
SE	.3	1.5	0
SSE	.6	1.5	0
S	.5	1.7	0
SSW	.8	2.0	0
SW	.9	2.2	10
WSW	.6	1.7	0
W	.9	2.2	9
WNW	.5	1.4	0
NW	.8	2.5	6
NNW	1.3	3.3	57
N	1.0	2.3	3

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.3	2.9	5
NE	.8	2.5	0
ENE	.6	2.0	0
E	.1	2.2	0
ESE	.1	1.7	0
SE	1.0	2.2	0
SSE	.9	2.2	0
S	.6	1.7	0
SSW	.5	2.0	0
SW	.8	1.8	2
WSW	.7	2.0	0
W	.6	2.5	1
WNW	.7	2.6	0
NW	.8	2.4	3
NNW	1.3	3.2	54
N	1.7	3.3	35

LOCATION 15

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.2	2.3	2
NE	1.6	3.4	29
ENE	1.2	2.6	9
E	1.4	2.8	9
ESE	1.3	2.9	5
SE	1.3	2.8	1
SSE	.8	2.0	0
S	.9	2.0	0
SSW	.9	2.2	0
SW	.7	1.7	0
WSW	.9	1.8	0
W	.7	2.1	0
WNW	.8	2.1	1
NW	.7	2.5	1
NNW	1.3	2.8	25
N	1.5	3.6	13

2000 FULL BUILD PRE-MITIGATION

LOCATION 13

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.1	3.3	1
NE	.5	2.6	0
ENE	.7	2.0	0
E	.5	2.0	0
ESE	.4	1.8	0
SE	1.1	2.5	0
SSE	1.1	2.6	0
S	.7	2.0	0
SSW	1.0	2.4	0
SW	.9	2.1	2
WSW	.8	1.8	0
W	.8	2.3	0
WNW	.7	1.6	0
NW	1.0	1.9	11
NNW	1.5	2.8	66
N	1.7	3.0	20

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	2
NE	1.0	2.8	7
ENE	1.0	2.3	7
E	.7	2.3	0
ESE	1.3	2.6	19
SE	1.6	2.8	6
SSE	1.5	2.8	3
S	1.0	2.4	2
SSW	1.1	2.2	3
SW	.8	1.9	4
WSW	.9	2.0	1
W	.9	2.3	6
WNW	.8	2.3	4
NW	.9	2.0	13
NNW	.9	2.2	11
N	1.2	2.6	10

LOCATION 15

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	1.9	0
NE	1.2	2.7	1
ENE	1.6	2.7	8
E	2.2	3.3	19
ESE	2.5	3.7	58
SE	1.7	3.2	0
SSE	.8	2.4	0
S	.5	2.0	0
SSW	.9	2.2	0
SW	.4	1.6	0
WSW	.7	2.3	0
W	.8	2.0	0
WNW	1.1	2.4	1
NW	1.3	2.4	8
NNW	1.3	2.6	5
N	1.7	2.4	0

TABLE E-63

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 13

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.9	2.3	1
NE	.8	2.0	3
ENE	.7	1.9	1
E	.6	1.9	0
ESE	.2	1.7	0
SE	.7	2.0	0
SSE	.1	1.8	0
S	.1	1.9	0
SSW	.5	1.8	0
SW	1.1	2.3	28
WSW	.1	1.7	0
W	.6	2.1	3
WNW	.6	1.7	0
NW	1.0	2.2	21
NNW	.8	2.4	24
N	1.4	2.8	19

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	1
NE	.9	1.9	5
ENE	.9	2.0	5
E	.7	1.8	1
ESE	.6	1.6	0
SE	.7	2.1	0
SSE	.4	2.0	0
S	.6	1.9	0
SSW	.4	1.8	0
SW	.7	1.8	2
WSW	.7	1.7	0
W	.6	2.4	0
WNW	.4	1.8	2
NW	.6	1.8	2
NNW	1.2	2.5	62
N	.9	2.7	10

LOCATION 15

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	0
NE	.9	2.2	7
ENE	1.0	2.1	6
E	.9	2.2	3
ESE	1.0	2.3	4
SE	.9	2.4	0
SSE	.7	2.1	0
S	.8	2.2	3
SSW	.9	2.1	1
SW	.7	1.9	4
WSW	.7	2.0	2
W	.6	2.1	2
WNW	.9	1.9	21
NW	.7	1.9	3
NNW	.8	2.2	13
N	1.4	2.9	30

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 13

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.5	3.7	14
NE	.6	2.2	1
ENE	.7	2.0	0
E	.7	1.8	0
ESE	.3	1.9	0
SE	.3	1.5	0
SSE	.6	1.5	0
S	.5	1.7	0
SSW	.8	2.0	0
SW	.9	2.2	6
WSW	.6	1.7	0
W	.9	2.2	5
WNW	.5	1.4	0
NW	.8	2.5	13
NNW	1.3	3.3	61
N	1.0	2.3	1

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.3	2.9	3
NE	.8	2.5	3
ENE	.6	2.0	0
E	.1	2.2	0
ESE	.1	1.7	0
SE	1.0	2.2	0
SSE	.9	2.2	0
S	.6	1.7	0
SSW	.5	2.0	0
SW	.8	1.8	1
WSW	.7	2.0	0
W	.8	2.5	1
WNW	.7	2.6	7
NW	.8	2.4	12
NNW	1.3	3.2	53
N	1.7	3.3	1

LOCATION 15

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.2	2.3	1
NE	1.6	3.4	25
ENE	1.2	2.6	7
E	1.4	2.8	7
ESE	1.3	2.9	5
SE	1.3	2.8	0
SSE	.8	2.0	0
S	.9	2.0	0
SSW	.9	2.2	0
SW	.7	1.7	0
WSW	.9	1.8	0
W	.7	2.1	0
WNW	.8	2.1	1
NW	.7	2.5	8
NNW	1.3	2.6	25
N	1.5	3.6	20

2000 FULL-BUILD PRE-MITIGATION

LOCATION 13

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.1	3.3	6
NE	.5	2.6	3
ENE	.7	2.0	4
E	.5	2.0	0
ESE	.4	1.8	0
SE	1.1	2.5	0
SSE	1.1	2.6	0
S	.7	2.0	0
SSW	1.0	2.4	1
SW	.9	2.1	6
WSW	.8	1.8	0
W	.8	2.3	2
WNW	.7	1.6	0
NW	1.0	1.9	6
NNW	1.5	2.8	50
N	1.7	3.0	15

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	1
NE	1.6	2.8	16
ENE	1.0	2.3	8
E	.7	2.3	2
ESE	1.3	2.6	16
SE	1.6	2.8	2
SSE	1.5	2.8	1
S	1.0	2.4	3
SSW	1.1	2.2	1
SW	.8	1.9	3
WSW	.9	2.0	1
W	.9	2.3	7
WNW	.8	2.3	10
NW	.9	2.0	11
NNW	.8	2.2	11
N	1.2	2.6	7

LOCATION 15

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	1.9	0
NE	1.2	2.7	3
ENE	1.6	2.7	7
E	2.2	3.3	15
ESE	2.5	3.7	41
SE	1.7	3.2	1
SSE	.8	2.4	0
S	.5	2.0	0
SSW	.9	2.2	0
SW	.4	1.6	0
WSW	.7	2.3	0
W	.8	2.0	0
WNW	1.1	2.4	8
NW	1.3	2.4	12
NNW	1.3	2.6	17
N	1.2	2.4	1

TABLE E-64

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	1.0	2.3	3
ENE	.8	2.0	1
E	.5	2.1	0
ESE	.8	2.1	0
SE	.9	2.3	0
SSE	.6	1.8	0
S	.7	2.3	0
SSW	.6	1.9	0
SW	.5	1.5	0
WSW	.6	1.7	0
W	.7	2.1	0
WNW	.6	1.6	0
NW	1.0	2.1	13
NNW	1.5	3.2	78
N	1.3	2.7	6

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.6	0
NE	1.7	3.7	15
ENE	2.1	3.4	30
E	2.0	3.5	17
ESE	2.0	3.4	26
SE	1.5	3.1	0
SSE	1.2	2.7	0
S	.9	2.5	0
SSW	1.1	2.9	0
SW	.5	1.8	0
WSW	1.2	2.5	0
W	.9	2.3	0
WNW	.9	2.2	0
NW	.9	2.5	1
NNW	1.3	2.9	8
N	1.4	3.2	2

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.9	0
NE	2.0	3.7	19
ENE	2.3	3.5	30
E	2.2	3.4	15
ESE	2.2	3.5	26
SE	1.8	3.4	0
SSE	1.4	3.0	0
S	1.0	2.8	0
SSW	1.1	2.8	0
SW	.6	1.9	0
WSW	1.0	2.6	0
W	.9	2.4	0
WNW	.9	2.4	0
NW	1.2	3.0	3
NNW	1.4	3.3	7
N	1.3	2.9	0

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.9	0
NE	1.5	3.0	8
ENE	2.0	3.0	25
E	2.0	3.3	20
ESE	2.1	3.3	36
SE	1.6	3.1	1
SSE	1.4	2.8	0
S	.9	2.5	0
SSW	1.0	2.3	0
SW	.5	2.0	0
WSW	1.2	2.6	1
W	1.0	2.7	0
WNW	.9	2.4	0
NW	1.1	2.4	3
NNW	1.2	3.1	6
N	.9	2.6	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.4	0
NE	1.1	2.4	5
ENE	1.4	2.3	17
E	1.6	2.7	21
ESE	1.8	2.9	55
SE	1.4	2.8	1
SSE	.8	2.4	0
S	.6	1.8	0
SSW	.8	1.9	0
SW	.1	1.3	0
WSW	.5	1.4	0
W	.5	1.6	0
WNW	.1	1.6	0
NW	.4	1.7	0
NNW	.8	2.0	2
N	.8	1.9	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.4	0
NE	1.5	3.1	11
ENE	1.8	2.9	35
E	2.0	3.2	24
ESE	1.9	3.3	31
SE	1.2	2.7	0
SSE	1.0	2.4	0
S	1.0	2.4	0
SSW	1.1	2.5	0
SW	.4	1.4	0
WSW	.7	1.7	0
W	.7	1.8	0
WNW	.7	1.6	0
NW	.8	1.8	1
NNW	1.2	2.3	8
N	.7	1.8	0

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.3	2.1	0
NE	1.1	2.5	3
ENE	1.6	2.5	20
E	1.8	3.1	27
ESE	1.8	3.0	37
SE	1.2	2.6	0
SSE	.7	2.4	0
S	.9	2.3	0
SSW	1.2	2.2	1
SW	.6	1.4	0
WSW	.7	1.6	0
W	.6	1.6	0
WNW	.7	1.8	0
NW	.8	1.8	1
NNW	1.1	2.2	11
N	.6	1.8	0

TABLE E-65

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	1.0	2.3	5
ENE	.8	2.0	1
E	.5	2.1	0
ESE	.8	2.1	0
SE	.9	2.3	0
SSE	.6	1.8	0
S	.7	2.3	0
SSW	.6	1.9	0
SW	.5	1.5	0
WSW	.6	1.7	0
W	.7	2.1	1
WNW	.6	1.6	0
NW	1.0	2.1	16
NNW	1.5	3.2	79
N	1.3	2.7	7

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.6	0
NE	1.7	3.7	22
ENE	2.1	3.4	23
E	2.0	3.5	14
ESE	2.0	3.4	16
SE	1.5	3.1	0
SSE	1.2	2.7	0
S	.9	2.5	0
SSW	1.1	2.9	0
SW	.5	1.8	0
WSW	1.2	2.5	1
W	.9	2.3	1
WNW	.9	2.2	0
NW	.9	2.5	7
NNW	1.3	2.9	12
N	1.4	3.2	4

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.9	0
NE	2.0	3.7	21
ENE	2.3	3.5	21
E	2.2	3.4	11
ESE	2.2	3.5	14
SE	1.8	3.4	0
SSE	1.4	3.0	0
S	1.0	2.8	0
SSW	1.1	2.8	0
SW	.6	1.9	0
WSW	1.0	2.6	0
W	.9	2.4	0
WNW	.9	2.4	0
NW	1.2	3.0	14
NNW	1.4	3.3	17
N	1.3	2.9	1

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.9	1
NE	1.5	3.0	10
ENE	2.0	3.0	18
E	2.0	3.3	15
ESE	2.1	3.3	23
SE	1.6	3.1	1
SSE	1.4	2.8	0
S	.9	2.5	0
SSW	1.0	2.3	0
SW	.5	2.0	0
WSW	1.2	2.6	2
W	1.0	2.7	4
WNW	.9	2.4	2
NW	1.1	2.4	8
NNW	1.2	3.1	15
N	.9	2.6	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.4	1
NE	1.1	2.4	12
ENE	1.4	2.3	13
E	1.6	2.7	17
ESE	1.8	2.9	43
SE	1.4	2.8	2
SSE	.8	2.4	0
S	.6	1.8	0
SSW	.8	1.9	0
SW	.1	1.3	0
WSW	.5	1.4	0
W	.5	1.6	0
WNW	.1	1.6	0
NW	.4	1.7	1
NNW	.8	2.0	11
N	.8	1.9	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.4	0
NE	1.5	3.1	16
ENE	1.8	2.9	19
E	2.0	3.2	20
ESE	1.9	3.3	31
SE	1.2	2.7	0
SSE	1.0	2.4	0
S	1.0	2.4	1
SSW	1.1	2.5	0
SW	.4	1.4	0
WSW	.7	1.7	0
W	.7	1.8	0
WNW	.7	1.6	0
NW	.8	1.8	1
NNW	1.2	2.3	10
N	.7	1.8	0

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.3	2.1	0
NE	1.1	2.5	9
ENE	1.6	2.5	15
E	1.8	3.1	22
ESE	1.8	3.0	30
SE	1.2	2.6	0
SSE	.7	2.4	0
S	.9	2.3	1
SSW	1.2	2.2	1
SW	.6	1.4	0
WSW	.7	1.6	0
W	.6	1.6	0
WNW	.7	1.8	2
NW	.8	1.6	4
NNW	1.1	2.2	15
N	.6	1.8	0

TABLE E-66

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	0
NE	1.3	2.5	13
ENE	.9	2.2	1
E	.7	1.7	0
ESE	.7	2.0	0
SE	.6	2.5	0
SSE	.4	1.9	0
S	.5	2.0	0
SSW	.8	1.8	0
SW	.3	1.5	0
WSW	.4	1.6	0
W	.9	2.5	1
WNW	.8	1.9	1
NW	1.2	2.7	46
NNW	1.3	2.6	37
N	1.0	2.5	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.0	2.6	3
NE	1.0	2.4	8
ENE	.7	2.6	2
E	1.0	2.6	5
ESE	1.0	2.5	5
SE	.7	1.9	0
SSE	.5	1.9	0
S	.6	1.7	0
SSW	.1	2.1	0
SW	.6	1.5	0
WSW	.1	1.7	0
W	.9	2.6	17
WNW	.7	1.5	2
NW	.9	2.3	31
NNW	1.0	2.4	24
N	.9	2.3	2

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.3	3.0	0
NE	2.1	3.7	21
ENE	2.1	3.4	22
E	2.0	3.2	9
ESE	2.2	3.4	21
SE	1.6	3.1	0
SSE	1.2	2.8	0
S	.7	2.1	0
SSW	.9	2.3	0
SW	.7	2.5	0
WSW	1.4	3.2	1
W	1.4	3.3	3
WNW	1.4	3.2	8
NW	1.4	2.7	12
NNW	1.3	3.3	4
N	.9	2.2	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.0	2.9	0
NE	1.3	3.1	4
ENE	1.6	2.6	12
E	1.9	3.0	16
ESE	1.9	3.2	27
SE	1.5	2.9	0
SSE	1.0	2.4	0
S	.4	2.1	0
SSW	.6	2.0	0
SW	.6	1.5	0
WSW	1.2	2.5	1
W	1.2	2.6	6
WNW	1.4	2.5	33
NW	.8	2.0	0
NNW	.7	2.6	0
N	.6	2.1	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	2.3	3.9	18
NE	1.9	3.5	23
ENE	1.5	2.7	8
E	1.4	2.6	1
ESE	1.4	2.6	1
SE	1.0	2.3	0
SSE	1.1	2.7	0
S	1.1	2.3	0
SSW	1.5	2.8	2
SW	.9	2.1	0
WSW	1.3	2.7	1
W	1.4	3.1	11
WNW	1.2	3.0	3
NW	1.4	3.2	20
NNW	1.3	3.3	10
N	1.4	3.2	1

2000 FULL-BUILD PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.3	0
NE	1.6	3.2	21
ENE	1.7	2.9	23
E	1.8	3.2	22
ESE	1.7	3.1	19
SE	.9	2.5	0
SSE	.8	2.3	0
S	1.2	2.9	1
SSW	1.5	2.9	5
SW	.7	1.6	0
WSW	.9	2.0	0
W	1.0	2.1	1
WNW	.8	1.8	0
NW	.8	1.8	1
NNW	1.1	2.1	6
N	.8	1.9	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.9	2.7	0
NE	.8	2.5	2
ENE	1.2	2.2	13
E	1.5	2.8	26
ESE	1.5	2.8	46
SE	.7	2.3	0
SSE	.3	2.2	0
S	.6	2.1	0
SSW	1.0	2.2	1
SW	.4	1.4	0
WSW	.8	1.6	0
W	.9	1.8	4
WNW	.8	1.7	2
NW	.5	1.8	0
NNW	.8	2.5	5
N	.7	1.9	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	2.4	4.0	30
NE	2.0	3.2	34
ENE	1.5	2.8	10
E	1.4	2.7	2
ESE	1.2	2.5	0
SE	1.2	2.8	0
SSE	1.4	2.9	0
S	1.3	2.6	2
SSW	1.7	2.8	8
SW	.7	1.9	0
WSW	.9	2.3	0
W	1.1	2.9	1
WNW	.7	1.8	0
NW	1.1	2.4	9
NNW	1.0	2.5	2
N	1.3	2.6	1

TABLE E-67

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	0
NE	1.3	2.5	8
ENE	.9	2.2	2
E	.7	1.7	0
ESE	.7	2.0	0
SE	.6	2.5	0
SSE	.4	1.9	0
S	.5	2.0	0
SSW	.8	1.8	0
SW	.3	1.5	0
WSW	.4	1.6	0
W	.9	2.5	4
WNW	.8	1.9	1
NW	1.2	2.7	48
NNW	1.3	2.8	36
N	1.0	2.5	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.0	2.6	2
NE	1.0	2.4	9
ENE	.7	2.6	5
E	1.0	2.6	5
ESE	1.0	2.5	3
SE	.7	1.9	0
SSE	.5	1.9	0
S	.6	1.7	0
SSW	.1	2.1	0
SW	.6	1.5	0
WSW	.1	1.7	0
W	.9	2.6	26
WNW	.7	1.5	0
NW	.9	2.3	29
NNW	1.0	2.4	19
N	.9	2.3	2

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.3	3.0	0
NE	2.1	3.7	21
ENE	2.1	3.4	15
E	2.0	3.2	5
ESE	2.2	3.4	8
SE	1.6	3.1	0
SSE	1.2	2.8	0
S	.7	2.1	0
SSW	.9	2.3	0
SW	.7	2.5	0
WSW	1.4	3.2	3
W	1.4	3.3	9
WNW	1.4	3.2	18
NW	1.4	2.7	12
NNW	1.3	3.3	10
N	.9	2.2	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.0	2.9	1
NE	1.3	3.1	10
ENE	1.6	2.6	10
E	1.9	3.0	12
ESE	1.9	3.2	22
SE	1.5	2.9	1
SSE	1.0	2.4	0
S	.4	2.1	0
SSW	.6	2.0	0
SW	.6	1.5	0
WSW	1.2	2.5	2
W	1.2	2.6	10
WNW	1.4	2.5	28
NW	.8	2.0	1
NNW	.7	2.6	2
N	.6	2.1	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	2.3	3.9	9
NE	1.9	3.5	13
ENE	1.5	2.7	3
E	1.4	2.6	1
ESE	1.4	2.6	0
SE	1.0	2.3	0
SSE	1.1	2.7	0
S	1.1	2.3	0
SSW	1.5	2.8	0
SW	.9	2.1	0
WSW	1.3	2.7	1
W	1.4	3.1	13
WNW	1.2	3.0	13
NW	1.4	3.2	30
NNW	1.3	3.3	16
N	1.4	3.2	2

2000 FULL-BUILD PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.3	0
NE	1.6	3.2	27
ENE	1.7	2.9	28
E	1.8	3.2	18
ESE	1.7	3.1	16
SE	.9	2.5	0
SSE	.8	2.3	0
S	1.2	2.9	6
SSW	1.5	2.9	5
SW	.7	1.6	0
WSW	.9	2.0	0
W	1.0	2.1	2
WNW	.8	1.8	0
NW	.8	1.8	2
NNW	1.1	2.1	6
N	.8	1.9	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.9	2.7	3
NE	.8	2.5	7
ENE	1.2	2.2	11
E	1.5	2.8	20
ESE	1.5	2.8	32
SE	.7	2.3	0
SSE	.3	2.2	0
S	.6	2.1	1
SSW	1.0	2.2	1
SW	.4	1.4	0
WSW	.8	1.6	0
W	.9	1.8	4
WNW	.8	1.7	6
NW	.5	1.8	3
NNW	.8	2.0	11
N	.7	1.9	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	2.4	4.0	23
NE	2.0	3.2	24
ENE	1.5	2.8	7
E	1.4	2.7	2
ESE	1.2	2.5	0
SE	1.2	2.8	0
SSE	1.4	2.9	0
S	1.3	2.6	2
SSW	1.7	2.8	4
SW	.7	1.9	0
WSW	.9	2.3	0
W	1.1	2.9	15
WNW	.7	1.8	0
NW	1.1	2.4	11
NNW	1.0	2.5	8
N	1.3	2.6	2

TABLE E-68

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 22

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	0
NE	.5	1.9	0
ENE	.6	1.9	1
E	.7	2.2	1
ESE	.9	1.9	2
SE	.1	1.6	0
SSE	.2	1.6	0
S	.1	1.6	0
SSW	.6	1.7	0
SW	.5	1.4	0
WSW	.2	1.4	0
W	.7	1.7	3
WNW	.5	1.4	0
NW	.7	1.9	10
NNW	1.2	2.5	82
N	.6	2.0	0

LOCATION 22

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.2	2.9	3
NE	1.4	3.0	24
ENE	.9	2.3	2
E	.8	2.2	0
ESE	.5	1.9	0
SE	.3	1.5	0
SSE	.5	1.7	0
S	.5	1.5	0
SSW	.8	1.7	0
SW	.5	1.3	0
WSW	.5	1.9	0
W	.6	1.9	0
WNW	1.1	2.5	42
NW	.8	2.3	5
NNW	1.1	2.6	21
N	1.1	3.1	4

LOCATION 22

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.1	2.7	6
NE	1.3	3.0	42
ENE	.9	2.3	7
E	.7	2.3	0
ESE	.7	1.9	0
SE	.9	2.2	0
SSE	.8	2.2	0
S	.3	1.8	0
SSW	.5	1.5	0
SW	.1	1.3	0
WSW	.6	1.5	0
W	.6	1.6	0
WNW	.7	1.6	3
NW	.7	1.9	7
NNW	.9	2.1	26
N	.9	2.5	4

LOCATION 23

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.1	1.5	0
NE	.1	1.6	0
ENE	.1	1.8	0
E	.1	1.9	0
ESE	.1	1.2	0
SE	.1	1.8	0
SSE	.1	1.7	0
S	.1	1.3	0
SSW	.1	1.8	0
SW	.3	1.4	0
WSW	.1	1.8	0
W	.4	1.5	4
WNW	.2	1.2	0
NW	.1	1.4	0
NNW	.1	1.7	0
N	.4	1.9	1

LOCATION 23

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	2.1	3.7	10
NE	2.1	3.7	27
ENE	1.6	3.1	7
E	1.3	2.7	0
ESE	.9	2.9	0
SE	.9	2.8	0
SSE	1.1	2.9	0
S	1.0	2.9	0
SSW	1.6	2.9	1
SW	.8	1.9	0
WSW	1.3	3.0	1
W	1.3	3.0	3
WNW	1.6	3.5	38
NW	1.2	3.0	5
NNW	1.4	3.1	9
N	1.0	3.1	0

LOCATION 23

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.9	3.6	11
NE	2.0	3.6	36
ENE	1.5	3.1	10
E	1.2	2.7	0
ESE	1.1	3.0	0
SE	1.4	3.3	0
SSE	1.4	3.3	0
S	1.4	2.8	3
SSW	1.8	3.1	10
SW	.6	1.7	0
WSW	.9	2.3	0
W	1.1	3.1	2
WNW	.9	2.2	0
NW	1.2	2.4	19
NNW	1.3	2.9	11
N	1.2	2.7	1

LOCATION 24

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.3	2.6	13
NE	1.3	2.5	34
ENE	.9	2.3	7
E	.4	1.5	0
ESE	.5	1.7	0
SE	.5	1.9	0
SSE	.6	2.3	0
S	.6	2.1	0
SSW	.7	1.9	0
SW	.5	1.6	0
WSW	.5	1.7	0
W	1.0	2.7	35
WNW	.7	2.0	1
NW	.7	2.1	3
NNW	.8	1.9	6
N	.8	2.2	1

LOCATION 24

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.9	3.2	0
NE	1.9	4.1	15
ENE	1.9	3.3	15
E	1.7	2.9	3
ESE	1.2	2.5	0
SE	.7	2.1	0
SSE	.1	1.8	0
S	.5	2.1	0
SSW	1.3	2.7	0
SW	.8	1.9	0
WSW	1.8	3.6	10
W	1.8	3.8	36
WNW	1.5	3.3	22
NW	1.0	2.0	0
NNW	.9	2.1	0
N	.6	1.7	0

LOCATION 24

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.9	2.7	0
NE	1.5	3.7	25
ENE	1.8	3.2	38
E	1.6	2.7	16
ESE	1.0	2.3	0
SE	.1	1.9	0
SSE	.5	2.0	0
S	1.1	2.9	2
SSW	1.4	2.8	8
SW	.7	1.6	0
WSW	.9	1.9	0
W	1.0	2.0	5
WNW	.8	1.7	1
NW	.8	1.9	2
NNW	.8	2.0	1
N	.8	1.9	0

TABLE E-69

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 22

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	1
NE	.5	1.9	1
ENE	.6	1.9	2
E	.7	2.2	3
ESE	.9	1.9	1
SE	.1	1.6	0
SSE	.2	1.6	0
S	.1	1.6	0
SSW	.6	1.7	0
SW	.5	1.4	0
WSW	.2	1.4	0
W	.7	1.7	0
WNW	.5	1.4	0
NW	.7	1.9	19
NNW	1.2	2.5	72
N	.6	2.0	1

LOCATION 22

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.2	2.9	2
NE	1.4	3.0	21
ENE	.9	2.3	3
E	.8	2.2	0
ESE	.5	1.9	0
SE	.3	1.5	0
SSE	.5	1.7	0
S	.5	1.5	0
SSW	.8	1.7	0
SW	.5	1.3	0
WSW	.5	1.9	0
W	.6	1.9	0
WNW	1.1	2.5	40
NW	.8	2.3	8
NNW	1.1	2.6	19
N	1.1	3.1	6

LOCATION 22

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.1	2.7	7
NE	1.3	3.0	38
ENE	.9	2.3	10
E	.7	2.3	2
ESE	.7	1.9	0
SE	.9	2.2	0
SSE	.8	2.2	0
S	.3	1.8	0
SSW	.5	1.5	0
SW	.1	1.3	0
WSW	.6	1.5	0
W	.6	1.6	0
WNW	.7	1.6	1
NW	.7	1.9	13
NNW	.9	2.1	23
N	.9	2.5	5

LOCATION 23

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.1	1.5	1
NE	.1	1.6	9
ENE	.1	1.8	35
E	.1	1.9	0
ESE	.1	1.2	0
SE	.1	1.8	0
SSE	.1	1.7	9
S	.1	1.3	0
SSW	.1	1.8	0
SW	.3	1.4	0
WSW	.1	1.8	0
W	.4	1.5	0
WNW	.2	1.2	0
NW	.1	1.4	27
NNW	.1	1.7	0
N	.4	1.9	20

LOCATION 23

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	2.1	3.7	5
NE	2.1	3.7	16
ENE	1.6	3.1	4
E	1.3	2.7	1
ESE	.9	2.9	0
SE	.9	2.8	0
SSE	1.1	2.9	0
S	1.0	2.9	0
SSW	1.6	2.9	0
SW	.8	1.9	0
WSW	1.3	3.0	1
W	1.3	3.0	5
WNW	1.6	3.5	48
NW	1.2	3.0	9
NNW	1.4	3.1	10
N	1.0	3.1	0

LOCATION 23

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.9	3.6	10
NE	2.0	3.6	27
ENE	1.5	3.1	10
E	1.2	2.7	1
ESE	1.1	3.0	2
SE	1.4	3.3	0
SSE	1.4	3.3	1
S	1.4	2.8	3
SSW	1.8	3.1	4
SW	.6	1.7	0
WSW	.9	2.3	0
W	1.1	3.1	12
WNW	.9	2.2	2
NW	1.2	2.4	12
NNW	1.3	2.9	15
N	1.2	2.7	1

LOCATION 24

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.3	2.6	7
NE	1.3	2.5	20
ENE	.9	2.3	8
E	.4	1.5	0
ESE	.5	1.7	0
SE	.5	1.9	0
SSE	.6	2.3	0
S	.6	2.1	1
SSW	.7	1.9	0
SW	.5	1.6	0
WSW	.5	1.7	0
W	1.0	2.7	39
WNW	.7	2.0	6
NW	.7	2.1	13
NNW	.8	1.9	5
N	.8	2.2	1

LOCATION 24

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.9	3.2	0
NE	1.9	4.1	21
ENE	1.9	3.3	11
E	1.7	2.9	1
ESE	1.2	2.5	0
SE	.7	2.1	0
SSE	.1	1.8	0
S	.5	2.1	0
SSW	1.3	2.7	0
SW	.8	1.9	0
WSW	1.8	3.6	7
W	1.8	3.8	31
WNW	1.5	3.3	27
NW	1.0	2.0	0
NNW	.9	2.1	0
N	.6	1.7	0

LOCATION 24

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.9	2.7	0
NE	1.5	3.7	40
ENE	1.8	3.2	30
E	1.6	2.7	10
ESE	1.0	2.3	1
SE	.1	1.9	0
SSE	.5	2.0	0
S	1.1	2.9	5
SSW	1.4	2.8	5
SW	.7	1.6	0
WSW	.9	1.9	0
W	1.0	2.0	3
WNW	.8	1.7	1
NW	.8	1.9	2
NNW	.8	2.0	2
N	.8	1.9	0

TABLE E-70

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.5	0
NE	1.1	2.4	3
ENE	.8	2.0	0
E	1.0	2.4	0
ESE	1.2	2.5	2
SE	1.2	3.0	0
SSE	1.0	2.7	0
S	.9	2.4	0
SSW	1.0	2.5	0
SW	1.0	2.7	5
WSW	1.5	3.1	17
W	1.1	2.5	8
WNW	1.3	3.0	50
NW	1.1	2.4	13
NNW	.9	2.3	2
N	.5	1.8	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	2.8	13
NE	1.3	2.5	23
ENE	.9	2.5	5
E	.5	1.6	0
ESE	.7	2.0	0
SE	.7	1.9	0
SSE	.7	2.2	0
S	.7	2.4	0
SSW	.7	2.2	0
SW	.6	1.8	0
WSW	.4	1.6	0
W	.8	2.4	1
WNW	.9	2.1	15
NW	.7	1.7	2
NNW	1.0	2.4	18
N	1.4	2.8	22

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.6	0
NE	.7	2.1	1
ENE	.8	2.2	4
E	.7	1.9	0
ESE	1.2	2.5	18
SE	.6	2.1	0
SSE	.9	2.2	0
S	.6	1.9	0
SSW	.6	1.8	0
SW	.5	1.8	0
WSW	.6	1.9	0
W	.5	1.8	0
WNW	1.0	2.5	59
NW	.6	2.0	1
NNW	.9	2.0	17
N	.9	2.5	2

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.4	0
NE	1.1	3.6	2
ENE	1.5	3.0	12
E	1.6	2.8	8
ESE	1.2	2.8	0
SE	.8	2.4	0
SSE	.8	2.1	0
S	.8	2.4	0
SSW	1.4	2.9	2
SW	.8	1.8	0
WSW	1.4	2.8	8
W	1.5	2.9	45
WNW	1.2	2.6	23
NW	.8	2.1	0
NNW	.7	2.0	0
N	.6	1.7	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	3.9	0
NE	2.5	4.6	54
ENE	2.2	3.8	32
E	1.2	2.6	0
ESE	.1	2.0	0
SE	.1	2.1	0
SSE	.9	2.5	0
S	1.2	2.7	0
SSW	1.6	3.0	2
SW	.7	1.8	0
WSW	1.3	2.7	1
W	1.4	2.8	9
WNW	1.0	2.6	1
NW	.8	2.5	0
NNW	.6	2.3	0
N	.4	1.8	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.6	3.9	12
NE	2.4	3.9	22
ENE	1.7	3.3	4
E	1.2	2.9	0
ESE	.7	2.5	0
SE	.6	2.5	0
SSE	1.2	3.0	0
S	1.1	2.6	0
SSW	1.5	3.0	0
SW	.7	1.9	0
WSW	1.5	3.1	1
W	1.8	3.8	14
WNW	1.4	3.5	3
NW	1.2	3.4	1
NNW	1.8	3.5	14
N	2.8	4.3	29

2000 FULL-BUILD PRE-MITIGATION

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.6	0
NE	1.1	2.9	6
ENE	1.4	3.0	23
E	1.4	2.8	16
ESE	1.2	2.6	6
SE	.9	2.3	0
SSE	1.0	2.5	0
S	1.3	2.7	15
SSW	1.6	2.7	20
SW	.6	1.5	0
WSW	.9	1.8	1
W	.8	1.9	1
WNW	.8	1.7	5
NW	.9	2.1	6
NNW	.8	2.0	2
N	.8	2.0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	2.5	0
NE	1.9	4.4	32
ENE	2.2	3.9	42
E	1.2	2.6	1
ESE	.6	2.0	0
SE	.4	2.2	0
SSE	1.0	2.7	0
S	1.6	3.2	10
SSW	1.8	3.3	12
SW	.8	1.7	0
WSW	.7	1.7	0
W	.7	2.1	0
WNW	.8	2.3	0
NW	.9	2.3	2
NNW	.8	1.7	0
N	.7	2.2	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.5	4.0	13
NE	2.3	3.9	24
ENE	1.8	3.5	7
E	1.1	2.7	0
ESE	.9	2.9	0
SE	1.3	3.3	0
SSE	1.6	3.3	0
S	1.5	3.1	0
SSW	1.7	3.1	1
SW	.6	2.0	0
WSW	.9	2.0	0
W	1.1	2.6	0
WNW	1.0	2.7	0
NW	1.4	3.2	4
NNW	1.8	3.5	22
N	2.7	4.1	30

TABLE E-71

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.5	0
NE	1.1	2.4	2
ENE	.8	2.0	0
E	1.0	2.4	0
ESE	1.2	2.5	1
SE	1.2	3.0	0
SSE	1.0	2.7	0
S	.9	2.4	0
SSW	1.0	2.5	0
SW	1.0	2.7	8
WSW	1.5	3.1	13
W	1.1	2.5	6
WNW	1.3	3.0	55
NW	1.1	2.4	11
NNW	.9	2.3	2
N	.5	1.8	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	2.8	14
NE	1.3	2.5	18
ENE	.9	2.5	8
E	.5	1.6	0
ESE	.7	2.0	0
SE	.7	1.9	0
SSE	.7	2.2	0
S	.7	2.4	1
SSW	.7	2.2	0
SW	.6	1.8	0
WSW	.4	1.6	0
W	.8	2.4	9
WNW	.9	2.1	13
NW	.7	1.7	4
NNW	1.0	2.4	14
N	1.4	2.8	18

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.6	3
NE	.7	2.1	3
ENE	.8	2.2	5
E	.7	1.9	0
ESE	1.2	2.5	6
SE	.6	2.1	0
SSE	.9	2.2	0
S	.6	1.9	0
SSW	.6	1.8	0
SW	.5	1.8	0
WSW	.6	1.9	0
W	.5	1.8	0
WNW	1.0	2.5	64
NW	.6	2.0	5
NNW	.9	2.0	8
N	.9	2.5	6

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.4	0
NE	1.1	3.6	13
ENE	1.5	3.0	14
E	1.6	2.8	5
ESE	1.2	2.8	2
SE	.8	2.4	0
SSE	.8	2.1	0
S	.8	2.4	0
SSW	1.4	2.9	2
SW	.8	1.8	0
WSW	1.4	2.8	6
W	1.5	2.9	35
WNW	1.2	2.6	20
NW	.8	2.1	1
NNW	.7	2.0	0
N	.6	1.7	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	3.9	1
NE	2.5	4.6	56
ENE	2.2	3.8	26
E	1.2	2.6	0
ESE	.1	2.0	0
SE	.1	2.1	0
SSE	.9	2.5	0
S	1.2	2.7	1
SSW	1.6	3.0	2
SW	.7	1.8	0
WSW	1.3	2.7	1
W	1.4	2.8	10
WNW	1.0	2.6	2
NW	.8	2.5	1
NNW	.6	2.3	0
N	.4	1.8	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.6	3.9	6
NE	2.4	3.9	13
ENE	1.7	3.3	4
E	1.2	2.9	0
ESE	.7	2.5	0
SE	.6	2.5	0
SSE	1.2	3.0	0
S	1.1	2.6	0
SSW	1.5	3.0	0
SW	.7	1.9	0
WSW	1.5	3.1	1
W	1.8	3.8	20
WNW	1.4	3.5	13
NW	1.2	3.4	10
NNW	1.8	3.5	19
N	2.8	4.3	14

2000 FULL-BUILD PRE-MITIGATION

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.6	1
NE	1.1	2.9	17
ENE	1.4	3.0	24
E	1.4	2.8	13
ESE	1.2	2.6	4
SE	.9	2.3	0
SSE	1.0	2.5	0
S	1.3	2.7	11
SSW	1.6	2.7	9
SW	.6	1.5	0
WSW	.9	1.8	0
W	.8	1.9	1
WNW	.8	1.7	3
NW	.9	2.1	12
NNW	.8	2.0	3
N	.8	2.0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	2.5	0
NE	1.9	4.4	47
ENE	2.2	3.9	34
E	1.2	2.6	1
ESE	.6	2.0	0
SE	.4	2.2	0
SSE	1.0	2.7	0
S	1.6	3.2	9
SSW	1.8	3.3	5
SW	.8	1.7	0
WSW	.7	1.7	0
W	.7	2.1	0
WNW	.8	2.3	1
NW	.9	2.3	3
NNW	.8	1.7	0
N	.7	2.2	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.5	4.0	8
NE	2.3	3.9	18
ENE	1.8	3.5	9
E	1.1	2.7	0
ESE	.9	2.9	0
SE	1.3	3.3	0
SSE	1.6	3.3	0
S	1.5	3.1	1
SSW	1.7	3.1	1
SW	.6	2.0	0
WSW	.9	2.0	0
W	1.1	2.6	0
WNW	1.0	2.7	1
NW	1.4	3.2	16
NNW	1.8	3.5	26
N	2.7	4.1	17

TABLE E-72

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.4	1
NE	1.0	2.3	11
ENE	1.1	2.5	18
E	.6	1.7	0
ESE	1.1	2.2	13
SE	1.0	2.2	0
SSE	1.1	2.4	1
S	1.0	2.3	5
SSW	.8	2.4	0
SW	.8	2.2	8
WSW	.7	2.0	0
W	.7	2.1	2
WNW	.8	2.1	9
NW	.8	1.8	12
NNW	.9	2.4	13
N	1.0	2.3	5

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	1
NE	1.0	2.3	20
ENE	.9	2.1	14
E	.1	1.6	0
ESE	.9	1.9	8
SE	.8	2.1	0
SSE	1.0	2.4	1
S	.8	2.1	2
SSW	.8	2.1	2
SW	.8	2.1	15
WSW	.6	2.0	0
W	.7	2.0	4
WNW	.6	2.3	4
NW	.7	2.0	10
NNW	.7	2.0	14
N	.1	1.7	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	3.2	0
NE	2.3	4.1	34
ENE	1.8	3.7	13
E	.3	2.1	0
ESE	1.1	2.8	0
SE	2.0	3.7	1
SSE	2.4	4.0	3
S	2.2	3.8	25
SSW	2.4	3.7	23
SW	1.0	2.0	0
WSW	1.0	2.4	0
W	1.1	2.6	0
WNW	1.0	3.1	0
NW	.8	1.6	0
NNW	.4	1.3	0
N	.6	1.7	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.4	3.7	8
NE	2.4	4.2	23
ENE	2.1	3.8	15
E	1.5	2.9	0
ESE	1.7	3.2	1
SE	1.9	3.4	0
SSE	1.9	3.6	0
S	1.6	3.0	1
SSW	1.8	3.1	1
SW	.8	1.9	0
WSW	1.3	2.8	0
W	1.3	2.9	0
WNW	1.4	3.0	2
NW	1.4	2.6	5
NNW	1.9	3.1	27
N	2.4	3.7	15

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.7	2.9	3
NE	2.0	3.4	25
ENE	1.6	3.2	8
E	1.3	2.9	1
ESE	1.4	2.4	1
SE	1.3	2.5	0
SSE	1.3	2.7	0
S	1.2	2.5	0
SSW	1.5	2.8	2
SW	.8	2.1	0
WSW	1.3	3.2	1
W	1.6	3.4	27
WNW	1.3	2.5	12
NW	.9	2.0	0
NNW	1.4	2.4	11
N	1.7	3.0	6

2000 FULL-BUILD PRE-MITIGATION

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.7	0
NE	2.2	4.0	26
ENE	1.8	3.6	12
E	.5	1.8	0
ESE	1.4	3.3	0
SE	2.2	3.9	2
SSE	2.6	4.1	4
S	2.4	3.8	38
SSW	2.3	3.4	18
SW	.8	2.2	0
WSW	.6	1.5	0
W	.7	1.8	0
WNW	.9	2.5	0
NW	.8	1.8	0
NNW	.6	1.7	0
N	.6	1.6	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.6	4.0	4
NE	2.5	4.0	11
ENE	2.0	3.7	3
E	1.5	3.1	0
ESE	2.0	3.6	0
SE	2.1	3.5	0
SSE	2.2	3.6	0
S	1.9	3.4	0
SSW	1.8	3.1	0
SW	.8	1.6	0
WSW	.8	1.8	0
W	.6	2.0	0
WNW	1.7	3.8	4
NW	2.0	3.6	15
NNW	2.6	3.8	44
N	3.0	4.2	18

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.5	2.9	3
NE	1.6	3.2	19
ENE	1.3	2.9	6
E	1.0	2.4	0
ESE	1.2	2.7	1
SE	1.3	2.9	0
SSE	1.5	3.3	1
S	1.6	3.1	12
SSW	1.6	3.1	8
SW	.7	2.2	0
WSW	1.0	2.3	0
W	.8	2.0	0
WNW	1.0	2.8	5
NW	1.2	2.8	22
NNW	1.2	2.7	15
N	1.5	2.9	7

TABLE E-73

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.4	2
NE	1.0	2.3	13
ENE	1.1	2.5	20
E	.6	1.7	0
ESE	1.1	2.2	5
SE	1.0	2.2	0
SSE	1.1	2.4	1
S	1.0	2.3	5
SSW	.8	2.4	1
SW	.8	2.2	2
WSW	.7	2.0	1
W	.7	2.1	4
WNW	.8	2.1	14
NW	.8	1.8	12
NNW	.9	2.4	14
N	1.0	2.3	6

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	1
NE	1.0	2.3	16
ENE	.9	2.1	8
E	.1	1.6	0
ESE	.9	1.9	2
SE	.8	2.1	0
SSE	1.0	2.4	1
S	.8	2.1	3
SSW	.8	2.1	0
SW	.8	2.1	18
WSW	.6	2.0	2
W	.7	2.0	8
WNW	.6	2.3	30
NW	.7	2.0	4
NNW	.7	2.0	6
N	.1	1.7	0

1995 INTERIM BUILD PRE-MITIGATION

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	3.2	0
NE	2.3	4.1	36
ENE	1.8	3.7	18
E	.3	2.1	0
ESE	1.1	2.8	1
SE	2.0	3.7	1
SSE	2.4	4.0	3
S	2.2	3.8	21
SSW	2.4	3.7	15
SW	1.0	2.0	0
WSW	1.0	2.4	0
W	1.1	2.6	1
WNW	1.0	3.1	4
NW	.8	1.6	0
NNW	.4	1.3	0
N	.6	1.7	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.4	3.7	6
NE	2.4	4.2	22
ENE	2.1	3.8	16
E	1.5	2.9	1
ESE	1.7	3.2	1
SE	1.9	3.4	0
SSE	1.9	3.6	0
S	1.6	3.0	1
SSW	1.8	3.1	1
SW	.8	1.9	0
WSW	1.3	2.8	0
W	1.3	2.9	2
WNW	1.4	3.0	13
NW	1.4	2.6	4
NNW	1.9	3.1	23
N	2.4	3.7	9

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.7	2.9	2
NE	2.0	3.4	18
ENE	1.6	3.2	10
E	1.3	2.9	1
ESE	1.4	2.4	0
SE	1.3	2.5	0
SSE	1.3	2.7	0
S	1.2	2.5	0
SSW	1.5	2.8	1
SW	.8	2.1	0
WSW	1.3	3.2	3
W	1.6	3.4	41
WNW	1.3	2.5	14
NW	.9	2.0	0
NNW	1.4	2.4	6
N	1.7	3.0	3

2000 FULL-BUILD PRE-MITIGATION

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.7	0
NE	2.2	4.0	33
ENE	1.8	3.6	18
E	.5	1.8	0
ESE	1.4	3.3	4
SE	2.2	3.9	3
SSE	2.6	4.1	3
S	2.4	3.8	28
SSW	2.3	3.4	9
SW	.8	2.2	0
WSW	.6	1.5	0
W	.7	1.8	0
WNW	.9	2.5	1
NW	.8	1.8	0
NNW	.6	1.7	0
N	.6	1.6	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.6	4.0	3
NE	2.5	4.0	10
ENE	2.0	3.7	6
E	1.5	3.1	0
ESE	2.0	3.6	1
SE	2.1	3.5	0
SSE	2.2	3.6	0
S	1.9	3.4	0
SSW	1.8	3.1	0
SW	.8	1.6	0
WSW	.8	1.8	0
W	.6	2.0	0
WNW	1.7	3.8	20
NW	2.0	3.6	19
NNW	2.6	3.8	29
N	3.0	4.2	11

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.5	2.9	2
NE	1.6	3.2	18
ENE	1.3	2.9	9
E	1.0	2.4	0
ESE	1.2	2.7	1
SE	1.3	2.9	0
SSE	1.5	3.3	1
S	1.6	3.1	6
SSW	1.6	3.1	4
SW	.7	2.2	0
WSW	1.0	2.3	0
W	.8	2.0	0
WNW	1.0	2.8	14
NW	1.2	2.8	28
NNW	1.2	2.7	13
N	1.5	2.9	4

TABLE E-74

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 31

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.3	2.6	3
NE	1.5	2.6	3
ENE	1.5	2.8	26
E	.5	2.0	0
ESE	.4	1.5	0
SE	1.1	2.1	0
SSE	.9	2.1	0
S	.9	2.1	0
SSW	.8	1.9	0
SW	1.0	2.1	6
WSW	.7	2.1	0
W	1.0	2.1	5
WNW	1.1	2.8	24
NW	.9	1.8	10
NNW	.6	2.0	0
N	.1	1.8	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	1
NE	.5	1.6	0
ENE	.7	1.8	4
E	.6	1.8	0
ESE	.7	1.7	1
SE	.8	2.2	0
SSE	.8	2.0	0
S	.6	2.1	0
SSW	.6	2.4	0
SW	.6	2.0	1
WSW	.5	2.1	0
W	.6	1.8	2
WNW	.9	2.3	75
NW	.6	1.8	3
NNW	.7	2.0	10
N	.8	2.0	4

LOCATION 33

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.7	3.3	6
NE	1.6	2.9	17
ENE	1.5	2.9	9
E	.7	2.1	0
ESE	1.2	2.6	0
SE	1.1	2.9	0
SSE	1.1	2.8	0
S	1.2	3.1	0
SSW	1.0	2.5	0
SW	.6	1.8	0
WSW	.6	2.0	0
W	.7	2.0	0
WNW	1.0	2.1	1
NW	1.1	2.2	7
NNW	1.6	2.7	40
N	1.9	3.1	19

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 31

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.2	2.4	0
NE	1.4	2.6	3
ENE	1.6	2.7	7
E	.8	2.3	0
ESE	.7	1.5	0
SE	1.1	2.1	0
SSE	1.1	2.0	0
S	1.0	1.9	0
SSW	1.0	2.6	0
SW	1.0	2.2	0
WSW	.9	1.9	0
W	1.1	2.6	0
WNW	1.8	3.8	90
NW	.7	1.8	0
NNW	.8	1.8	0
N	.8	1.9	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.9	2.2	0
NE	1.0	2.1	0
ENE	.7	2.2	0
E	.9	2.2	0
ESE	.9	2.0	0
SE	.8	2.2	0
SSE	.9	2.0	0
S	.8	1.8	0
SSW	.8	2.1	0
SW	.5	2.5	0
WSW	.8	1.8	0
W	.9	2.7	0
WNW	1.7	3.4	97
NW	1.0	2.5	3
NNW	.7	2.0	0
N	.8	2.3	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.9	3.2	3
NE	1.3	2.6	0
ENE	.1	2.3	0
E	.5	2.1	0
ESE	1.7	3.5	1
SE	1.8	3.3	0
SSE	1.7	3.6	0
S	1.3	3.2	0
SSW	.7	2.3	0
SW	.6	2.0	0
WSW	1.0	2.5	0
W	1.1	3.4	0
WNW	1.7	3.1	32
NW	1.5	2.5	10
NNW	2.0	3.1	42
N	2.2	3.3	11

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 31

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.3	2.6	0
NE	1.6	3.2	7
ENE	1.8	3.1	7
E	.6	2.0	0
ESE	.9	1.8	0
SE	1.4	2.4	0
SSE	1.6	3.0	0
S	1.4	3.2	0
SSW	1.4	2.7	2
SW	1.3	2.9	1
WSW	1.2	2.7	0
W	1.6	3.6	7
WNW	2.0	4.4	62
NW	1.6	3.1	17
NNW	1.1	2.6	0
N	.6	2.1	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	.9	2.1	0
ENE	.7	1.8	0
E	.7	1.9	0
ESE	1.1	2.2	0
SE	1.3	2.4	0
SSE	1.4	3.1	0
S	1.2	2.6	0
SSW	1.1	2.4	0
SW	.9	2.9	0
WSW	1.0	2.4	0
W	1.8	3.7	34
WNW	1.6	3.6	30
NW	1.7	2.9	37
NNW	.9	2.5	0
N	.7	2.1	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	2.2	3.7	3
NE	1.5	2.9	1
ENE	.6	2.2	0
E	.8	2.3	0
ESE	1.9	3.5	1
SE	1.6	3.2	0
SSE	1.7	3.7	0
S	.8	2.7	0
SSW	.6	1.7	0
SW	.4	1.4	0
WSW	.8	1.7	0
W	.7	2.0	0
WNW	2.0	3.2	33
NW	1.7	3.0	13
NNW	2.3	3.3	39
N	2.4	3.5	10

TABLE E-75
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 31

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.3	2.6	2
NE	1.5	2.6	13
ENE	1.5	2.8	19
E	.5	2.0	0
ESE	.4	1.5	0
SE	1.1	2.1	0
SSE	.9	2.1	0
S	.9	2.1	0
SSW	.8	1.9	0
SW	1.0	2.1	5
WSW	.7	2.1	0
W	1.0	2.1	4
WNW	1.1	2.8	56
NW	.9	1.8	1
NNW	.6	2.0	0
N	.1	1.8	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	.5	1.6	0
ENE	.7	1.8	2
E	.6	1.8	0
ESE	.7	1.7	0
SE	.8	2.2	0
SSE	.8	2.0	0
S	.6	2.1	1
SSW	.6	2.4	1
SW	.6	2.0	3
WSW	.5	2.1	1
W	.6	1.8	2
WNW	.9	2.3	86
NW	.6	1.8	0
NNW	.7	2.0	2
N	.8	2.0	2

LOCATION 33

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.7	3.3	9
NE	1.6	2.9	20
ENE	1.5	2.9	14
E	.7	2.1	0
ESE	1.2	2.6	1
SE	1.1	2.9	0
SSE	1.1	2.8	0
S	1.2	3.1	5
SSW	1.0	2.5	0
SW	.6	1.8	0
WSW	.6	2.0	0
W	.7	2.0	0
WNW	1.0	2.1	2
NW	1.1	2.2	8
NNW	1.6	2.7	24
N	1.9	3.1	16

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 31

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.2	2.4	0
NE	1.4	2.6	1
ENE	1.6	2.7	3
E	.8	2.3	0
ESE	.7	1.5	0
SE	1.1	2.1	0
SSE	1.1	2.0	0
S	1.0	1.9	0
SSW	1.0	2.6	0
SW	1.0	2.2	0
WSW	.9	1.9	0
W	1.1	2.6	1
WNW	1.8	3.8	95
NW	.7	1.8	0
NNW	.8	1.8	0
N	.8	1.9	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.9	2.2	0
NE	1.0	2.1	0
ENE	.7	2.2	0
E	.9	2.2	0
ESE	.9	2.0	0
SE	.8	2.2	0
SSE	.9	2.0	0
S	.8	1.8	0
SSW	.8	2.1	0
SW	.5	2.5	0
WSW	.8	1.8	0
W	.9	2.7	2
WNW	1.7	3.4	91
NW	1.0	2.5	6
NNW	.7	2.0	0
N	.8	2.3	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.9	3.2	4
NE	1.3	2.6	2
ENE	.1	2.3	0
E	.5	2.1	0
ESE	1.7	3.5	3
SE	1.8	3.3	0
SSE	1.7	3.6	1
S	1.3	3.2	1
SSW	.7	2.3	0
SW	.6	2.0	0
WSW	1.0	2.5	0
W	1.1	3.4	2
WNW	1.7	3.1	46
NW	1.5	2.5	7
NNW	2.0	3.1	28
N	2.2	3.3	7

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 31

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.3	2.6	0
NE	1.6	3.2	7
ENE	1.8	3.1	7
E	.6	2.0	0
ESE	.9	1.8	0
SE	1.4	2.4	0
SSE	1.6	3.0	0
S	1.4	3.2	0
SSW	1.4	2.7	0
SW	1.3	2.9	1
WSW	1.2	2.7	0
W	1.6	3.6	9
WNW	2.0	4.4	78
NW	1.6	3.1	7
NNW	1.1	2.6	1
N	.6	2.1	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	.9	2.1	0
ENE	.7	1.8	0
E	.7	1.9	0
ESE	1.1	2.2	0
SE	1.3	2.4	0
SSE	1.4	3.1	0
S	1.2	2.6	0
SSW	1.1	2.4	0
SW	.9	2.9	1
WSW	1.0	2.4	0
W	1.8	3.7	38
WNW	1.6	3.6	36
NW	1.7	2.9	23
NNW	.9	2.6	1
N	.7	2.1	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	2.2	3.7	3
NE	1.5	2.9	2
ENE	.6	2.2	0
E	.8	2.3	0
ESE	1.9	3.5	3
SE	1.6	3.2	0
SSE	1.7	3.7	0
S	.8	2.7	0
SSW	.6	1.7	0
SW	.4	1.4	0
WSW	.8	1.7	0
W	.7	2.0	0
WNW	2.0	3.2	39
NW	1.7	3.0	15
NNW	2.3	3.3	30
N	2.4	3.5	7

TABLE E-76
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.5	2.9	7
NE	1.5	3.0	18
ENE	1.4	3.1	14
E	1.0	2.6	0
ESE	1.8	3.9	45
SE	1.7	3.9	4
SSE	1.2	3.1	0
S	.4	2.3	0
SSW	.6	2.1	0
SW	.1	1.4	0
WSW	.1	1.8	0
W	.3	2.0	0
WNW	.6	1.7	0
NW	.7	2.2	0
NNW	1.0	2.2	7
N	1.2	2.2	3

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.4	5
NE	.4	2.0	0
ENE	.4	2.0	0
E	.5	1.9	0
ESE	.8	2.4	0
SE	.9	2.4	0
SSE	.7	2.0	0
S	.7	1.9	0
SSW	.8	2.0	1
SW	.5	1.4	0
WSW	.5	1.5	0
W	.8	1.9	10
WNW	.9	2.0	38
NW	.6	2.0	3
NNW	.7	1.8	7
N	1.4	2.3	36

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.2	9
NE	1.2	2.4	32
ENE	1.3	2.6	36
E	.9	2.2	3
ESE	.8	1.7	1
SE	.5	2.0	0
SSE	.6	1.7	0
S	.3	1.7	0
SSW	.3	1.7	0
SW	.3	1.2	0
WSW	.3	1.4	0
W	.4	1.9	0
WNW	.7	1.7	12
NW	.6	2.0	2
NNW	.3	1.9	0
N	.8	2.0	2

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	1.0	3.0	4
ENE	1.7	3.1	40
E	2.0	3.2	56
ESE	.1	.4	0
SE	.1	1.0	0
SSE	.1	1.0	0
S	.1	.9	0
SSW	1.0	1.8	0
SW	.4	1.2	0
WSW	.1	1.4	0
W	.1	1.1	0
WNW	.1	1.0	0
NW	.1	1.1	0
NNW	.7	1.7	0
N	.7	1.5	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	.7	2.5	0
ENE	1.4	2.8	11
E	1.7	3.0	21
ESE	2.0	3.1	62
SE	1.2	2.6	0
SSE	.9	2.3	0
S	1.0	2.5	0
SSW	1.4	2.5	4
SW	.5	1.4	0
WSW	.8	1.6	0
W	.6	1.6	0
WNW	.7	1.7	0
NW	.5	1.6	0
NNW	.6	1.6	0
N	1.2	2.1	2

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.8	0
NE	1.1	2.2	19
ENE	1.2	2.3	26
E	1.1	2.0	12
ESE	1.0	1.7	4
SE	.5	1.3	0
SSE	.5	1.5	0
S	.6	1.6	0
SSW	.7	1.5	0
SW	.3	1.2	0
WSW	.7	1.3	0
W	.8	1.6	7
WNW	.8	1.7	26
NW	.6	1.7	2
NNW	.5	1.3	0
N	.7	1.6	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.9	0
NE	1.1	2.8	9
ENE	1.7	3.1	34
E	1.9	3.2	40
ESE	1.5	2.8	19
SE	.7	1.8	0
SSE	.8	1.9	0
S	.8	1.9	0
SSW	.8	1.6	0
SW	.6	1.3	0
WSW	.4	1.4	0
W	.9	2.4	1
WNW	.9	2.2	3
NW	.5	1.6	0
NNW	.7	1.6	0
N	.7	1.6	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.2	0
NE	.9	2.3	0
ENE	1.8	2.9	16
E	2.0	3.1	31
ESE	1.9	3.1	40
SE	1.3	2.8	0
SSE	.8	2.7	0
S	1.2	2.8	1
SSW	1.1	2.2	0
SW	.4	1.4	0
WSW	.5	1.4	0
W	.8	2.3	0
WNW	.8	2.0	0
NW	.4	1.8	0
NNW	1.1	2.2	6
N	1.4	2.7	4

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.1	0
NE	1.1	2.2	11
ENE	1.3	2.7	20
E	1.2	2.0	7
ESE	1.2	1.9	8
SE	.1	2.3	0
SSE	.6	1.6	0
S	.8	1.8	0
SSW	.8	1.8	0
SW	.3	1.2	0
WSW	.2	1.3	0
W	1.1	2.0	28
WNW	1.0	2.2	24
NW	.5	2.0	0
NNW	.6	1.7	0
N	.8	1.7	0

TABLE E-77

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.5	2.9	4
NE	1.5	3.0	14
ENE	1.4	3.1	14
E	1.0	2.6	2
ESE	1.8	3.9	54
SE	1.7	3.9	5
SSE	1.2	3.1	1
S	.4	2.3	0
SSW	.6	2.1	0
SW	.1	1.4	0
WSW	.1	1.8	0
W	.3	2.0	0
WNW	.6	1.7	0
NW	.7	2.2	2
NNW	1.0	2.2	4
N	1.2	2.2	1

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.4	5
NE	.4	2.0	4
ENE	.4	2.0	1
E	.5	1.9	0
ESE	.8	2.4	9
SE	.9	2.4	1
SSE	.7	2.0	0
S	.7	1.9	0
SSW	.8	2.0	1
SW	.5	1.4	0
WSW	.5	1.5	0
W	.8	1.9	10
WNW	.9	2.0	33
NW	.6	2.0	10
NNW	.7	1.8	9
N	1.4	2.3	17

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.2	6
NE	1.2	2.4	27
ENE	1.3	2.6	33
E	.9	2.2	7
ESE	.8	1.7	1
SE	.5	2.0	0
SSE	.6	1.7	0
S	.3	1.7	0
SSW	.3	1.7	0
SW	.3	1.2	0
WSW	.3	1.4	0
W	.4	1.9	0
WNW	.7	1.7	7
NW	.6	2.0	12
NNW	.3	1.9	3
N	.8	2.0	3

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	1.0	3.0	16
ENE	1.7	3.1	40
E	2.0	3.2	43
ESE	.1	.4	0
SE	.1	1.0	0
SSE	.1	1.0	0
S	.1	.9	0
SSW	1.0	1.8	0
SW	.4	1.2	0
WSW	.1	1.4	0
W	.1	1.1	0
WNW	.1	1.0	0
NW	.1	1.1	0
NNW	.7	1.7	2
N	.7	1.5	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	.7	2.5	4
ENE	1.4	2.8	21
E	1.7	3.0	22
ESE	2.0	3.1	44
SE	1.2	2.6	0
SSE	.9	2.3	0
S	1.0	2.5	3
SSW	1.4	2.5	4
SW	.5	1.4	0
WSW	.8	1.6	0
W	.6	1.6	0
WNW	.7	1.7	1
NW	.5	1.6	0
NNW	.6	1.6	0
N	1.2	2.1	1

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.8	2
NE	1.1	2.2	23
ENE	1.2	2.3	26
E	1.1	2.0	9
ESE	1.0	1.7	2
SE	.5	1.3	0
SSE	.5	1.5	0
S	.6	1.6	0
SSW	.7	1.5	0
SW	.3	1.2	0
WSW	.7	1.3	0
W	.8	1.6	0
WNW	.8	1.7	33
NW	.6	1.7	6
NNW	.5	1.3	0
N	.7	1.6	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.9	0
NE	1.1	2.8	10
ENE	1.7	3.1	34
E	1.9	3.2	29
ESE	1.5	2.8	15
SE	.7	1.8	0
SSE	.8	1.9	0
S	.8	1.9	0
SSW	.8	1.6	0
SW	.6	1.3	0
WSW	.4	1.4	0
W	.9	2.4	4
WNW	.9	2.2	7
NW	.5	1.6	0
NNW	.7	1.6	0
N	.7	1.6	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.2	0
NE	.9	2.3	3
ENE	1.6	2.6	20
E	2.0	3.4	26
ESE	1.9	3.1	26
SE	1.3	2.8	0
SSE	.8	2.7	0
S	1.2	2.8	5
SSW	1.1	2.2	0
SW	.4	1.4	0
WSW	.5	1.4	0
W	.8	2.3	1
WNW	.8	2.0	0
NW	.4	1.9	0
NNW	1.1	2.2	13
N	1.4	2.7	6

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.1	1
NE	1.1	2.2	14
ENE	1.3	2.7	20
E	1.2	2.0	5
ESE	1.2	1.9	2
SE	.1	2.3	0
SSE	.6	1.6	0
S	.8	1.8	0
SSW	.8	1.8	0
SW	.3	1.2	0
WSW	.2	1.3	0
W	1.1	2.0	20
WNW	1.0	2.2	32
NW	.5	2.0	2
NNW	.6	1.7	3
N	.8	1.7	1

TABLE E-78

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	0
NE	2.0	3.2	6
ENE	2.5	3.8	18
E	2.1	3.8	7
ESE	2.0	3.6	2
SE	1.4	2.8	0
SSE	.7	2.1	0
S	.6	1.8	0
SSW	.6	1.8	0
SW	.5	1.4	0
WSW	.7	1.6	0
W	1.4	2.6	0
WNW	1.7	2.8	9
NW	2.2	3.2	40
NNW	2.0	2.9	14
N	.6	1.7	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.2	3
NE	.5	1.7	1
ENE	.3	1.6	0
E	.1	1.8	0
ESE	.6	1.4	0
SE	.3	1.9	0
SSE	.4	1.8	0
S	.1	1.5	0
SSW	.1	1.6	0
SW	.5	1.2	0
WSW	.3	1.4	0
W	.6	1.7	2
WNW	.7	2.1	38
NW	.7	2.2	48
NNW	.7	1.7	8
N	.5	1.9	1

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	1.8	0
NE	.1	1.5	0
ENE	.4	1.6	0
E	.6	1.8	0
ESE	.5	1.7	0
SE	.5	1.7	0
SSE	.1	1.7	0
S	.6	1.8	0
SSW	.6	1.7	0
SW	1.3	2.4	43
WSW	1.3	2.4	16
W	.8	1.8	1
WNW	.7	1.6	1
NW	.8	2.1	7
NNW	1.3	2.3	30
N	1.1	1.9	1

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	3.0	0
NE	2.2	3.7	11
ENE	2.6	4.2	20
E	2.8	4.1	13
ESE	2.8	4.0	16
SE	1.9	2.9	0
SSE	1.2	2.6	0
S	.7	1.7	0
SSW	.8	1.9	0
SW	.4	1.4	0
WSW	1.1	2.0	0
W	1.7	2.6	2
WNW	1.9	3.2	17
NW	1.9	3.0	17
NNW	1.6	2.7	4
N	.7	1.8	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.3	3
NE	.7	1.8	1
ENE	.6	1.6	0
E	.7	1.4	0
ESE	.5	1.3	0
SE	.6	1.2	0
SSE	.3	1.3	0
S	.5	1.2	0
SSW	.3	1.2	0
SW	.6	1.4	0
WSW	.6	1.3	0
W	.7	1.6	0
WNW	.6	2.1	10
NW	1.1	2.3	67
NNW	.8	2.1	11
N	1.1	2.4	8

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.2	0
NE	.6	1.8	0
ENE	1.2	2.2	1
E	.8	2.2	0
ESE	.6	1.9	0
SE	.6	1.8	0
SSE	.9	1.9	0
S	1.1	2.3	0
SSW	1.3	2.3	0
SW	1.9	3.3	53
WSW	1.4	2.7	5
W	1.2	2.3	5
WNW	.9	2.1	1
NW	1.0	2.4	9
NNW	1.5	2.9	25
N	1.1	2.6	1

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.7	9
NE	1.9	3.4	7
ENE	2.4	4.1	18
E	2.8	4.3	15
ESE	2.8	4.0	17
SE	1.6	2.9	0
SSE	.7	2.1	0
S	.8	1.8	0
SSW	.7	1.8	0
SW	.3	1.4	0
WSW	.4	1.5	0
W	1.6	3.1	5
WNW	1.9	3.2	24
NW	1.6	2.8	8
NNW	1.5	3.0	5
N	1.1	2.6	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.1	1
NE	.7	1.9	3
ENE	.6	1.8	2
E	.7	1.5	0
ESE	.7	1.6	0
SE	.4	1.3	0
SSE	.1	1.4	0
S	.5	1.4	0
SSW	.4	1.4	0
SW	.1	1.3	0
WSW	.1	1.4	0
W	.7	2.0	3
WNW	.9	2.2	47
NW	.7	2.2	21
NNW	.6	2.1	16
N	1.2	2.3	7

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.8	0
NE	1.0	2.2	4
ENE	1.5	2.8	22
E	.3	1.9	0
ESE	1.4	2.3	4
SE	1.2	2.3	0
SSE	1.1	2.2	0
S	1.2	2.3	2
SSW	1.5	2.3	3
SW	1.4	2.5	34
WSW	.9	1.8	0
W	1.0	2.1	6
WNW	.7	1.7	0
NW	.8	2.2	8
NNW	1.0	2.2	5
N	1.1	2.5	3

TABLE E-80

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	0
NE	2.0	3.2	6
ENE	2.5	3.8	17
E	2.1	3.8	3
ESE	2.0	3.6	2
SE	1.4	2.8	0
SSE	.7	2.1	0
S	.6	1.8	0
SSW	.6	1.8	0
SW	.5	1.4	0
WSW	.7	1.6	0
W	1.4	2.6	0
WNW	1.7	2.8	9
NW	2.2	3.2	47
NNW	2.0	2.9	16
N	.6	1.7	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.2	9
NE	.5	1.7	0
ENE	.3	1.6	0
E	.1	1.8	0
ESE	.6	1.4	0
SE	.3	1.9	0
SSE	.4	1.8	0
S	.1	1.5	0
SSW	.1	1.6	0
SW	.5	1.2	1
WSW	.3	1.4	0
W	.6	1.7	3
WNW	.7	2.1	43
NW	.7	2.2	33
NNW	.7	1.7	10
N	.5	1.9	0

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	1.8	0
NE	.1	1.5	0
ENE	.4	1.6	0
E	.6	1.8	0
ESE	.5	1.7	0
SE	.5	1.7	0
SSE	.1	1.7	0
S	.6	1.8	0
SSW	.6	1.7	0
SW	1.3	2.4	45
WSW	1.3	2.4	16
W	.8	1.8	0
WNW	.7	1.8	0
NW	.8	2.1	3
NNW	1.3	2.3	34
N	1.1	1.9	3

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	3.0	0
NE	2.2	3.7	6
ENE	2.6	4.2	18
E	2.8	4.1	12
ESE	2.8	4.0	22
SE	1.9	2.9	0
SSE	1.2	2.6	0
S	.7	1.7	0
SSW	.8	1.9	0
SW	.4	1.4	0
WSW	1.1	2.0	0
W	1.7	2.6	2
WNW	1.9	3.2	15
NW	1.9	3.0	17
NNW	1.6	2.7	3
N	.7	1.8	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.3	3
NE	.7	1.8	1
ENE	.6	1.6	0
E	.7	1.4	0
ESE	.5	1.3	0
SE	.6	1.2	0
SSE	.3	1.3	0
S	.5	1.2	0
SSW	.3	1.2	0
SW	.6	1.4	0
WSW	.6	1.3	0
W	.7	1.6	1
WNW	.6	2.1	0
NW	1.1	2.3	77
NNW	.8	2.1	6
N	1.1	2.4	11

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.2	0
NE	.6	1.8	0
ENE	1.2	2.2	1
E	.8	2.2	0
ESE	.6	1.9	0
SE	.6	1.8	0
SSE	.9	1.9	0
S	1.1	2.3	0
SSW	1.3	2.3	0
SW	1.9	3.3	73
WSW	1.4	2.7	3
W	1.2	2.3	1
WNW	.9	2.1	0
NW	1.0	2.4	2
NNW	1.5	2.9	18
N	1.1	2.6	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.7	0
NE	1.9	3.4	7
ENE	2.4	4.1	18
E	2.8	4.3	15
ESE	2.8	4.0	29
SE	1.6	2.9	0
SSE	.7	2.1	0
S	.8	1.8	0
SSW	.7	1.8	0
SW	.3	1.4	0
WSW	.4	1.5	0
W	1.6	3.1	2
WNW	1.9	3.2	24
NW	1.6	2.8	5
NNW	1.5	3.0	2
N	1.1	2.6	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.1	2
NE	.7	1.9	2
ENE	.6	1.8	0
E	.7	1.5	0
ESE	.7	1.6	0
SE	.4	1.3	0
SSE	.1	1.4	0
S	.5	1.4	0
SSW	.4	1.4	0
SW	.1	1.3	0
WSW	.1	1.4	0
W	.7	2.0	2
WNW	.9	2.2	54
NW	.7	2.2	8
NNW	.8	2.1	11
N	1.2	2.3	3

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.8	0
NE	1.0	2.2	1
ENE	1.5	2.8	20
E	.3	1.9	0
ESE	1.4	2.3	10
SE	1.2	2.3	0
SSE	1.1	2.2	0
S	1.2	2.3	3
SSW	1.5	2.3	9
SW	1.4	2.5	44
WSW	.9	1.8	0
W	1.0	2.1	4
WNW	.7	1.7	0
NW	.8	2.2	5
NNW	1.0	2.2	5
N	1.0	2.5	1

TABLE E-79

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.7	0
NE	1.0	2.0	1
ENE	1.2	2.5	4
E	1.2	2.5	2
ESE	1.6	2.6	15
SE	1.2	2.7	0
SSE	1.0	2.4	0
S	.9	2.5	0
SSW	.4	2.0	0
SW	.8	2.4	0
WSW	.9	2.2	0
W	.8	2.1	0
WNW	.9	2.2	1
NW	1.0	2.3	4
NNW	1.6	3.0	67
N	1.3	2.7	4

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.5	0
NE	1.1	2.0	1
ENE	1.5	2.5	10
E	1.6	2.9	7
ESE	2.0	3.0	37
SE	1.6	2.6	1
SSE	1.5	2.8	1
S	1.5	2.8	6
SSW	1.0	2.4	0
SW	1.3	2.8	12
WSW	1.1	2.7	1
W	.8	2.4	0
WNW	.8	2.5	0
NW	.8	2.3	0
NNW	1.4	2.6	24
N	1.2	2.3	1

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.8	0
NE	1.4	2.4	0
ENE	1.7	2.8	2
E	1.7	3.1	0
ESE	2.1	3.7	3
SE	1.5	3.2	0
SSE	1.0	2.4	0
S	1.0	2.4	0
SSW	.8	2.3	0
SW	1.7	3.6	5
WSW	2.1	3.6	6
W	2.1	3.5	24
WNW	2.0	3.7	36
NW	1.9	3.3	20
NNW	1.6	3.1	3
N	1.1	2.6	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.8	0
NE	1.0	2.4	2
ENE	1.5	2.7	16
E	1.3	3.1	3
ESE	1.0	2.2	0
SE	1.0	2.2	0
SSE	.8	2.4	0
S	.8	2.7	0
SSW	.6	2.0	0
SW	.7	2.3	0
WSW	.8	2.2	0
W	.8	2.3	0
WNW	.9	2.3	1
NW	1.0	2.3	10
NNW	1.6	2.8	67
N	1.1	2.4	1

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.9	0
NE	1.1	2.6	1
ENE	1.7	2.9	10
E	1.4	2.7	3
ESE	1.9	3.0	35
SE	1.7	2.7	1
SSE	1.4	2.7	0
S	1.5	2.9	8
SSW	1.1	2.4	0
SW	1.7	2.8	6
WSW	1.0	2.7	0
W	.8	2.6	0
WNW	.8	2.0	0
NW	.9	2.1	1
NNW	1.4	2.6	25
N	1.0	2.1	0

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	2.5	0
NE	1.3	2.7	0
ENE	1.8	3.3	2
E	1.4	3.1	0
ESE	1.7	3.0	0
SE	1.5	3.0	0
SSE	1.4	2.9	0
S	1.0	2.4	0
SSW	1.3	2.7	0
SW	1.5	3.5	1
WSW	1.8	3.2	1
W	2.1	3.6	10
WNW	2.2	3.7	41
NW	2.2	3.6	32
NNW	2.1	3.3	13
N	1.6	3.1	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.5	0
NE	.8	1.9	0
ENE	.1	1.8	0
E	.5	1.4	0
ESE	1.4	2.4	6
SE	.9	2.3	0
SSE	.8	1.9	0
S	1.1	2.6	1
SSW	1.2	2.2	1
SW	1.4	2.5	33
WSW	1.2	2.3	3
W	1.1	2.7	7
WNW	.7	2.0	0
NW	.7	1.9	0
NNW	1.4	2.9	37
N	1.5	2.7	11

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.6	2.9	1
NE	1.4	2.5	3
ENE	1.6	2.8	5
E	1.0	2.2	0
ESE	1.8	3.1	7
SE	1.3	2.3	0
SSE	1.5	2.6	0
S	1.9	3.1	9
SSW	1.6	2.7	2
SW	1.9	3.6	44
WSW	1.9	3.3	14
W	1.4	2.7	6
WNW	1.1	2.6	0
NW	.6	2.2	0
NNW	1.0	2.7	0
N	1.8	2.8	7

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.8	3.5	0
NE	2.1	3.4	6
ENE	1.5	2.7	1
E	.6	1.8	0
ESE	.8	2.3	0
SE	.8	1.8	0
SSE	1.0	2.0	0
S	.9	2.2	0
SSW	1.1	2.0	0
SW	.9	2.6	0
WSW	1.2	2.5	0
W	1.5	3.1	0
WNW	1.9	3.3	17
NW	2.2	3.4	47
NNW	2.3	3.6	28
N	1.8	3.0	1

TABLE E-81

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.7	0
NE	1.0	2.0	1
ENE	1.2	2.5	4
E	1.2	2.5	2
ESE	1.6	2.6	7
SE	1.2	2.7	0
SSE	1.0	2.4	0
S	.9	2.5	1
SSW	.4	2.0	0
SW	.8	2.4	4
WSW	.9	2.2	0
W	.8	2.1	1
WNW	.9	2.2	7
NW	1.0	2.3	12
NNW	1.6	3.0	56
N	1.3	2.7	5

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.5	0
NE	1.1	2.0	1
ENE	1.5	2.5	8
E	1.6	2.9	5
ESE	2.0	3.0	16
SE	1.6	2.6	0
SSE	1.5	2.8	0
S	1.5	2.8	6
SSW	1.0	2.4	0
SW	1.3	2.8	21
WSW	1.1	2.7	5
W	.8	2.4	1
WNW	.8	2.5	6
NW	.8	2.3	5
NNW	1.4	2.6	24
N	1.2	2.3	1

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.8	0
NE	1.4	2.4	0
ENE	1.7	2.8	2
E	1.7	3.1	1
ESE	2.1	3.7	4
SE	1.5	3.2	0
SSE	1.0	2.4	0
S	1.0	2.4	0
SSW	.8	2.3	0
SW	1.7	3.6	9
WSW	2.1	3.6	4
W	2.1	3.6	17
WNW	2.0	3.7	41
NW	1.9	3.3	18
NNW	1.6	3.1	4
N	1.1	2.6	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.8	0
NE	1.0	2.4	2
ENE	1.5	2.7	13
E	1.3	3.1	5
ESE	1.0	2.2	0
SE	1.0	2.2	0
SSE	.8	2.4	0
S	.8	2.7	1
SSW	.6	2.0	0
SW	.7	2.3	1
WSW	.8	2.2	0
W	.8	2.3	1
WNW	.9	2.3	8
NW	1.0	2.3	18
NNW	1.6	2.8	48
N	1.1	2.4	2

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.9	0
NE	1.1	2.6	3
ENE	1.7	2.9	15
E	1.4	2.7	4
ESE	1.9	3.0	16
SE	1.7	2.7	0
SSE	1.4	2.7	0
S	1.5	2.9	11
SSW	1.1	2.4	0
SW	1.2	2.8	14
WSW	1.0	2.7	3
W	.8	2.6	1
WNW	.8	2.0	2
NW	.9	2.1	4
NNW	1.4	2.6	25
N	1.0	2.1	0

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	2.5	0
NE	1.3	2.7	0
ENE	1.8	3.3	2
E	1.4	3.1	0
ESE	1.7	3.0	0
SE	1.5	3.0	0
SSE	1.4	2.9	0
S	1.0	2.4	0
SSW	1.3	2.7	0
SW	1.5	3.5	4
WSW	1.8	3.2	1
W	2.1	3.6	10
WNW	2.2	3.7	44
NW	2.2	3.6	26
NNW	2.1	3.3	12
N	1.6	3.1	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.5	0
NE	.8	1.9	0
ENE	.1	1.8	0
E	.5	1.4	0
ESE	1.4	2.4	3
SE	.9	2.3	0
SSE	.8	1.9	0
S	1.1	2.6	3
SSW	1.2	2.2	0
SW	1.4	2.5	23
WSW	1.2	2.3	2
W	1.1	2.7	12
WNW	.7	2.0	1
NW	.7	1.9	1
NNW	1.4	2.9	47
N	1.5	2.7	7

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.6	2.9	1
NE	1.4	2.5	3
ENE	1.6	2.8	6
E	1.0	2.2	0
ESE	1.8	3.1	6
SE	1.3	2.3	0
SSE	1.5	2.6	0
S	1.9	3.1	7
SSW	1.6	2.7	1
SW	1.9	3.6	43
WSW	1.9	3.3	10
W	1.4	2.7	8
WNW	1.1	2.6	5
NW	.6	2.2	0
NNW	1.0	2.7	6
N	1.8	2.8	3

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.8	3.5	1
NE	2.1	3.4	7
ENE	1.5	2.7	1
E	.6	1.8	0
ESE	.8	2.3	0
SE	.8	1.8	0
SSE	1.0	2.0	0
S	.9	2.2	0
SSW	1.1	2.0	0
SW	.9	2.6	0
WSW	1.2	2.5	0
W	1.5	3.1	2
WNW	1.9	3.3	20
NW	2.2	3.4	38
NNW	2.3	3.6	29
N	1.8	3.0	1

TABLE E-82

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 43

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.1	0
NE	.7	1.6	0
ENE	.7	1.9	0
E	.8	1.9	0
ESE	.5	1.4	0
SE	.4	1.8	0
SSE	.6	1.7	0
S	.6	1.6	0
SSW	.5	1.8	0
SW	.6	2.1	0
WSW	.9	2.4	0
W	1.1	2.6	2
WNW	1.3	3.1	39
NW	1.1	3.0	19
NNW	1.7	3.2	33
N	1.8	3.2	6

LOCATION 44

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.9	0
NE	.5	1.8	0
ENE	.5	1.6	0
E	.6	1.8	0
ESE	.1	1.5	0
SE	.4	1.8	0
SSE	.5	1.5	0
S	.5	1.6	0
SSW	.5	1.7	0
SW	.9	2.6	18
WSW	1.2	2.4	8
W	.8	2.2	5
WNW	.8	2.2	8
NW	1.0	2.5	37
NNW	1.1	2.5	23
N	.9	2.2	1

LOCATION 45

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	.7	2.2	0
ENE	.8	2.0	0
E	.7	1.8	0
ESE	.4	1.8	0
SE	.6	2.2	0
SSE	.7	1.8	0
S	.8	1.8	0
SSW	.7	2.0	0
SW	1.6	3.2	36
WSW	1.1	2.9	1
W	1.0	2.4	1
WNW	1.3	3.1	24
NW	1.2	2.9	20
NNW	1.1	3.1	16
N	1.0	2.9	1

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 43

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	2.4	0
NE	.7	1.7	0
ENE	.7	1.5	0
E	.5	1.5	0
ESE	.8	1.7	0
SE	.1	1.5	0
SSE	.6	1.6	0
S	.6	1.5	0
SSW	.5	1.4	0
SW	.6	2.1	0
WSW	.9	2.2	0
W	.9	2.5	1
WNW	1.2	3.1	38
NW	1.2	3.3	27
NNW	1.6	3.1	30
N	1.8	3.0	4

LOCATION 44

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.9	0
NE	.5	1.5	0
ENE	.7	1.5	0
E	.6	1.6	0
ESE	.6	1.7	0
SE	.1	1.2	0
SSE	.6	1.7	0
S	.5	1.9	0
SSW	.3	1.5	0
SW	1.0	2.8	23
WSW	1.1	2.2	5
W	.8	2.1	4
WNW	.7	2.3	11
NW	.9	2.6	32
NNW	1.0	2.6	24
N	.8	2.1	0

LOCATION 45

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.9	0
NE	.6	1.5	0
ENE	.8	1.9	0
E	.7	2.0	0
ESE	.6	1.7	0
SE	.3	1.4	0
SSE	.8	2.3	0
S	.9	1.8	0
SSW	.7	2.0	0
SW	1.4	3.1	20
WSW	1.1	2.6	0
W	.9	2.4	0
WNW	1.3	3.3	30
NW	1.0	3.1	16
NNW	1.4	3.5	32
N	1.0	3.2	2

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 43

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.0	3.1	2
NE	1.6	2.6	2
ENE	1.0	2.1	0
E	.3	1.4	0
ESE	1.1	2.5	0
SE	.9	2.5	0
SSE	.7	3.5	0
S	.7	2.2	0
SSW	.4	1.7	0
SW	1.4	2.7	6
WSW	1.5	2.6	1
W	1.8	3.1	18
WNW	1.8	3.1	42
NW	1.4	2.7	15
NNW	1.4	2.9	9
N	1.9	3.2	5

LOCATION 44

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.2	3.6	11
NE	1.5	2.7	6
ENE	.6	1.6	0
E	.6	1.6	0
ESE	.7	2.0	0
SE	1.5	2.8	0
SSE	.9	2.2	0
S	1.2	2.5	0
SSW	.8	2.3	0
SW	1.3	2.6	10
WSW	1.3	2.8	2
W	1.1	2.7	2
WNW	1.1	2.6	7
NW	1.3	2.7	17
NNW	1.4	3.2	31
N	1.9	3.4	14

LOCATION 45

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	2.2	0
NE	.4	1.6	0
ENE	.6	1.8	1
E	.7	1.8	0
ESE	1.0	2.0	1
SE	.7	1.6	0
SSE	.7	1.6	0
S	.8	2.0	0
SSW	.5	1.7	0
SW	.5	2.3	5
WSW	1.0	2.6	8
W	.6	2.1	2
WNW	.6	2.3	13
NW	.6	2.5	16
NNW	1.2	2.7	51
N	.9	2.4	1

TABLE E-84

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 43

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.1	0
NE	.7	1.6	0
ENE	.7	1.9	0
E	.8	1.9	0
ESE	.5	1.4	0
SE	.4	1.8	0
SSE	.6	1.7	0
S	.6	1.6	0
SSW	.5	1.8	0
SW	.6	2.1	0
WSW	.9	2.4	0
W	1.1	2.6	2
WNW	1.3	3.1	22
NW	1.1	3.0	8
NNW	1.7	3.2	53
N	1.8	3.2	14

LOCATION 44

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.9	0
NE	.5	1.8	0
ENE	.5	1.6	0
E	.6	1.8	0
ESE	.1	1.5	0
SE	.4	1.8	0
SSE	.5	1.5	0
S	.5	1.6	0
SSW	.5	1.7	0
SW	.9	2.6	14
WSW	1.2	2.4	16
W	.8	2.2	4
WNW	.8	2.2	5
NW	1.0	2.5	27
NNW	1.1	2.5	34
N	.9	2.2	1

LOCATION 45

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	.7	2.2	0
ENE	.8	2.0	0
E	.7	1.8	0
ESE	.4	1.8	0
SE	.6	2.2	0
SSE	.7	1.8	0
S	.8	1.8	0
SSW	.7	2.0	0
SW	1.6	3.2	43
WSW	1.1	2.9	1
W	1.0	2.4	1
WNW	1.3	3.1	38
NW	1.2	2.9	12
NNW	1.1	3.1	7
N	1.0	2.9	0

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 43

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	2.4	2
NE	.7	1.7	0
ENE	.7	1.5	0
E	.5	1.5	0
ESE	.8	1.7	0
SE	.1	1.5	0
SSE	.6	1.6	0
S	.6	1.5	0
SSW	.5	1.4	0
SW	.6	2.1	0
WSW	.9	2.2	0
W	.9	2.5	0
WNW	1.2	3.1	14
NW	1.2	3.3	16
NNW	1.6	3.1	52
N	1.8	3.0	16

LOCATION 44

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.9	0
NE	.5	1.5	0
ENE	.7	1.5	1
E	.6	1.6	0
ESE	.6	1.7	0
SE	.1	1.2	0
SSE	.6	1.7	0
S	.5	1.9	0
SSW	.3	1.5	0
SW	1.0	2.8	26
WSW	1.1	2.2	15
W	.8	2.1	2
WNW	.7	2.3	1
NW	.9	2.6	28
NNW	1.0	2.6	27
N	.8	2.1	0

LOCATION 45

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.9	0
NE	.6	1.5	0
ENE	.8	1.9	0
E	.7	2.0	0
ESE	.6	1.7	0
SE	.3	1.4	0
SSE	.8	2.3	0
S	.9	1.8	0
SSW	.7	2.0	0
SW	1.4	3.1	29
WSW	1.1	2.6	1
W	.9	2.4	0
WNW	1.3	3.3	35
NW	1.0	3.1	6
NNW	1.4	3.5	29
N	1.0	3.2	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 43

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.0	3.1	4
NE	1.6	2.6	2
ENE	1.0	2.1	0
E	.3	1.4	0
ESE	1.1	2.5	0
SE	.9	2.5	0
SSE	.7	3.5	0
S	.7	2.2	0
SSW	.4	1.7	0
SW	1.4	2.7	4
WSW	1.5	2.6	1
W	1.8	3.1	21
WNW	1.8	3.1	46
NW	1.4	2.7	9
NNW	1.4	2.9	6
N	1.9	3.2	6

LOCATION 44

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.2	3.6	20
NE	1.5	2.7	8
ENE	.6	1.6	0
E	.6	1.6	0
ESE	.7	2.0	0
SE	1.5	2.8	0
SSE	.9	2.2	0
S	1.2	2.5	0
SSW	.8	2.3	0
SW	1.3	2.6	10
WSW	1.3	2.8	2
W	1.1	2.7	2
WNW	1.1	2.6	3
NW	1.3	2.7	14
NNW	1.4	3.2	21
N	1.9	3.4	19

LOCATION 45

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	2.2	0
NE	.4	1.6	0
ENE	.6	1.8	0
E	.7	1.8	0
ESE	1.0	2.0	8
SE	.7	1.6	0
SSE	.7	1.6	0
S	.8	2.0	1
SSW	.5	1.7	0
SW	.5	2.3	0
WSW	1.0	2.6	14
W	.6	2.1	0
WNW	.6	2.3	1
NW	.6	2.5	1
NNW	1.2	2.7	68
N	.9	2.4	4

TABLE E-83

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 46

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.6	1.8	0
NE	.1	1.6	0
ENE	.9	2.0	0
E	.9	1.9	0
ESE	.7	1.8	0
SE	.8	2.1	0
SSE	.8	2.0	0
S	.8	2.1	0
SSW	.7	2.1	0
SW	1.7	3.2	72
WSW	1.7	3.4	27
W	.4	2.0	0
WNW	.9	2.6	1
NW	.6	2.0	0
NNW	.8	2.0	0
N	.9	1.9	0

LOCATION 47

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.5	2.5	1
NE	1.0	2.0	0
ENE	1.2	2.1	1
E	1.0	2.4	0
ESE	1.0	2.2	0
SE	1.0	2.2	0
SSE	1.2	2.5	0
S	1.2	2.5	0
SSW	1.1	2.4	0
SW	1.9	3.0	57
WSW	1.7	3.0	11
W	.8	2.5	0
WNW	.8	1.8	0
NW	1.0	2.2	1
NNW	1.6	2.7	24
N	1.6	2.6	4

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.8	0
NE	.5	1.6	0
ENE	.5	1.5	0
E	.6	1.8	0
ESE	1.0	2.0	3
SE	.8	2.0	0
SSE	.9	2.2	0
S	1.1	2.5	9
SSW	1.2	2.6	11
SW	1.2	2.2	56
WSW	1.1	2.3	19
W	.4	1.7	0
WNW	.4	1.6	0
NW	.1	1.7	0
NNW	.7	1.8	2
N	.5	1.9	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 46

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.2	2.1	1
NE	.7	1.6	0
ENE	.6	2.0	0
E	.9	1.8	0
ESE	.9	2.1	0
SE	.8	2.2	0
SSE	1.1	2.4	0
S	1.0	2.2	0
SSW	.7	2.0	0
SW	1.4	2.9	49
WSW	1.7	3.3	49
W	.6	2.1	0
WNW	.8	2.6	0
NW	.6	2.1	0
NNW	.7	1.9	0
N	.9	2.0	0

LOCATION 47

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.4	2.2	1
NE	1.0	2.3	0
ENE	.7	1.6	0
E	.9	1.8	0
ESE	.8	1.9	0
SE	.8	2.2	0
SSE	1.5	2.8	1
S	1.6	3.0	9
SSW	1.4	2.8	2
SW	1.7	3.0	61
WSW	1.2	3.0	2
W	.4	1.8	0
WNW	.5	1.6	0
NW	1.0	1.9	3
NNW	1.3	2.5	17
N	1.3	2.2	2

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.3	2.5	5
NE	1.1	2.2	6
ENE	.6	1.8	0
E	.8	2.3	0
ESE	1.4	2.6	17
SE	1.1	2.2	0
SSE	1.1	2.4	0
S	1.4	2.9	19
SSW	1.5	2.8	15
SW	1.2	2.7	28
WSW	.8	2.3	0
W	.1	1.6	0
WNW	.4	2.0	0
NW	.6	1.7	0
NNW	.9	1.9	5
N	1.1	2.2	4

2000 FULL-BUILD PRE-MITIGATION

LOCATION 46

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	0
NE	.8	2.0	0
ENE	.1	1.7	0
E	.6	1.7	0
ESE	.9	2.1	0
SE	.8	1.8	0
SSE	.6	1.8	0
S	1.0	3.2	1
SSW	.8	2.5	0
SW	.9	2.4	4
WSW	.9	2.3	0
W	.6	2.0	0
WNW	.5	1.7	0
NW	.9	2.3	6
NNW	1.6	2.9	85
N	1.1	2.9	3

LOCATION 47

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.7	2.7	8
NE	1.1	2.1	1
ENE	.1	1.9	0
E	.7	1.7	0
ESE	.6	1.5	0
SE	.5	1.8	0
SSE	.8	2.0	0
S	1.0	2.0	0
SSW	1.0	3.7	0
SW	1.1	2.4	4
WSW	1.0	2.2	0
W	.8	2.2	0
WNW	.6	1.7	0
NW	.9	1.9	1
NNW	1.7	3.2	73
N	1.7	2.6	12

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.4	2.6	5
NE	.5	1.9	0
ENE	.5	1.6	0
E	.8	2.1	0
ESE	1.0	2.4	0
SE	.9	2.2	0
SSE	1.2	2.6	0
S	1.1	2.9	2
SSW	1.3	2.7	3
SW	1.3	2.6	28
WSW	1.0	2.5	1
W	.6	1.8	0
WNW	.5	2.0	0
NW	.7	1.8	0
NNW	1.4	2.8	48
N	1.5	2.6	12

TABLE E-85

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 46

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.6	1.8	0
NE	.1	1.6	0
ENE	.9	2.0	0
E	.9	1.9	0
ESE	.7	1.8	0
SE	.8	2.1	0
SSE	.8	2.0	0
S	.8	2.1	0
SSW	.7	2.1	0
SW	1.7	3.2	61
WSW	1.7	3.4	29
W	.4	2.0	0
WNW	.9	2.6	9
NW	.6	2.0	0
NNW	.8	2.0	1
N	.9	1.9	0

LOCATION 47

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.5	2.5	1
NE	1.0	2.0	0
ENE	1.2	2.1	1
E	1.0	2.4	0
ESE	1.0	2.2	0
SE	1.0	2.2	0
SSE	1.2	2.5	0
S	1.2	2.5	1
SSW	1.1	2.4	0
SW	1.9	3.0	52
WSW	1.7	3.0	18
W	.8	2.5	0
WNW	.8	1.8	0
NW	1.0	2.2	3
NNW	1.6	2.7	21
N	1.6	2.6	2

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.8	0
NE	.5	1.6	0
ENE	.5	1.5	0
E	.6	1.8	0
ESE	1.0	2.0	2
SE	.8	2.0	0
SSE	.9	2.2	0
S	1.1	2.5	15
SSW	1.2	2.6	9
SW	1.2	2.2	50
WSW	1.1	2.3	19
W	.4	1.7	0
WNW	.4	1.6	0
NW	.1	1.7	0
NNW	.7	1.8	4
N	.5	1.9	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 46

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.2	2.1	0
NE	.7	1.6	0
ENE	.6	2.0	0
E	.9	1.8	0
ESE	.9	2.1	0
SE	.8	2.2	0
SSE	1.1	2.4	0
S	1.0	2.2	0
SSW	.7	2.0	0
SW	1.4	2.9	45
WSW	1.7	3.3	36
W	.6	2.1	0
WNW	.8	2.6	16
NW	.6	2.1	0
NNW	.7	1.9	1
N	.9	2.0	0

LOCATION 47

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.4	2.2	0
NE	1.0	2.3	1
ENE	.7	1.6	0
E	.9	1.8	0
ESE	.8	1.9	0
SE	.8	2.2	0
SSE	1.5	2.8	1
S	1.6	3.0	8
SSW	1.4	2.8	3
SW	1.7	3.0	56
WSW	1.2	3.0	17
W	.4	1.8	0
WNW	.5	1.6	0
NW	1.0	1.9	3
NNW	1.3	2.5	12
N	1.3	2.2	1

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.3	2.5	3
NE	1.1	2.2	5
ENE	.6	1.8	1
E	.8	2.3	1
ESE	1.4	2.6	11
SE	1.1	2.2	0
SSE	1.1	2.4	1
S	1.4	2.9	19
SSW	1.5	2.8	9
SW	1.2	2.7	38
WSW	.8	2.3	3
W	.1	1.6	0
WNW	.4	2.0	0
NW	.6	1.7	1
NNW	.9	1.9	6
N	1.1	2.2	3

2000 FULL-BUILD PRE-MITIGATION

LOCATION 46

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	1
NE	.8	2.0	1
ENE	.1	1.7	0
E	.6	1.7	0
ESE	.9	2.1	0
SE	.8	1.8	0
SSE	.6	1.8	0
S	1.0	3.2	8
SSW	.8	2.5	0
SW	.9	2.4	7
WSW	.9	2.3	1
W	.6	2.0	0
WNW	.5	1.7	0
NW	.9	2.3	15
NNW	1.6	2.9	61
N	1.1	2.9	6

LOCATION 47

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.7	2.7	4
NE	1.1	2.1	2
ENE	.1	1.9	0
E	.7	1.7	0
ESE	.6	1.5	0
SE	.5	1.8	0
SSE	.8	2.0	0
S	1.0	2.0	0
SSW	1.0	3.7	1
SW	1.1	2.4	11
WSW	1.0	2.2	1
W	.8	2.2	1
WNW	.6	1.7	0
NW	.9	1.9	2
NNW	1.7	3.2	71
N	1.7	2.6	7

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.4	2.6	2
NE	.5	1.9	0
ENE	.5	1.6	0
E	.8	2.1	0
ESE	1.0	2.4	1
SE	.9	2.2	0
SSE	1.2	2.6	0
S	1.1	2.9	6
SSW	1.3	2.7	3
SW	1.3	2.6	30
WSW	1.0	2.5	4
W	.6	1.8	0
WNW	.5	2.0	0
NW	.7	1.8	2
NNW	1.4	2.8	44
N	1.5	2.6	6

TABLE E-86

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	.5	2.0	0
ENE	.8	2.0	0
E	.7	2.1	0
ESE	1.5	2.8	11
SE	1.0	2.4	0
SSE	1.1	2.8	0
S	1.3	3.0	4
SSW	1.5	2.9	5
SW	1.5	2.8	46
WSW	1.7	3.1	33
W	.7	2.0	0
WNW	.5	1.8	0
NW	.8	2.3	1
NNW	.8	2.5	1
N	.9	2.3	0

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	.7	2.1	0
ENE	1.2	2.8	18
E	.7	2.2	0
ESE	1.0	2.6	2
SE	.7	2.2	0
SSE	.9	2.4	0
S	1.0	2.3	4
SSW	1.2	2.3	7
SW	1.1	2.6	53
WSW	.9	2.6	3
W	.7	1.6	0
WNW	.7	2.3	4
NW	.7	2.2	2
NNW	.8	2.2	6
N	.7	1.8	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.3	0
NE	1.0	2.5	0
ENE	1.0	2.7	0
E	1.6	3.1	3
ESE	2.0	3.4	18
SE	1.3	2.5	0
SSE	1.2	2.5	0
S	1.2	2.5	0
SSW	1.2	2.6	0
SW	1.8	2.9	37
WSW	2.1	3.6	30
W	.9	2.0	0
WNW	.8	2.0	0
NW	1.1	2.4	1
NNW	1.4	2.7	10
N	1.4	2.6	1

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.3	0
NE	.8	1.9	0
ENE	.6	2.0	0
E	.6	2.0	0
ESE	1.8	3.1	45
SE	1.2	2.3	0
SSE	1.2	2.7	0
S	1.4	3.2	14
SSW	1.4	2.8	5
SW	1.1	2.5	13
WSW	1.2	2.8	7
W	.6	1.8	0
WNW	.6	2.2	0
NW	.9	2.2	7
NNW	1.0	2.8	8
N	1.0	2.1	1

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.3	0
NE	.9	2.3	2
ENE	.9	2.4	3
E	.7	1.8	0
ESE	1.2	2.6	4
SE	.9	2.1	0
SSE	.9	2.3	0
S	1.1	2.6	4
SSW	1.2	2.1	3
SW	1.3	2.3	47
WSW	1.0	2.0	2
W	.7	1.8	0
WNW	.8	2.2	4
NW	1.0	2.1	18
NNW	1.0	2.4	11
N	.8	2.2	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	2.5	0
NE	.8	2.2	0
ENE	1.0	2.6	0
E	1.6	3.0	1
ESE	2.4	3.8	30
SE	1.3	2.3	0
SSE	1.2	2.2	0
S	1.3	2.6	0
SSW	1.2	2.6	0
SW	1.8	2.9	23
WSW	2.2	3.5	31
W	.9	2.2	0
WNW	1.2	2.6	1
NW	1.4	2.5	6
NNW	1.5	2.6	7
N	1.4	2.7	1

2000 FULL-BUILD PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.2	0
NE	.5	1.8	0
ENE	.5	1.6	0
E	.7	1.7	0
ESE	1.4	2.9	4
SE	1.2	2.3	0
SSE	1.4	2.7	0
S	1.4	3.1	6
SSW	1.5	3.0	6
SW	1.2	2.7	15
WSW	1.2	2.9	3
W	.7	2.0	0
WNW	.8	2.3	0
NW	1.2	2.6	22
NNW	1.5	2.8	39
N	1.3	2.7	3

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	0
NE	.7	1.7	0
ENE	.7	2.0	0
E	.8	1.8	0
ESE	1.0	2.6	1
SE	1.1	2.4	0
SSE	1.0	2.3	0
S	1.3	2.6	16
SSW	1.2	2.1	3
SW	1.1	2.5	30
WSW	1.0	2.0	2
W	.9	1.9	5
WNW	1.0	2.3	17
NW	.7	2.2	0
NNW	1.1	2.4	24
N	.9	2.1	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.2	0
NE	1.0	2.2	0
ENE	.8	1.9	0
E	1.3	2.8	1
ESE	2.1	3.5	30
SE	1.4	2.5	0
SSE	1.3	2.5	0
S	1.3	2.7	1
SSW	1.0	2.3	0
SW	1.5	2.8	22
WSW	1.9	3.4	26
W	1.2	2.4	2
WNW	1.2	2.3	7
NW	1.1	2.2	3
NNW	1.3	2.6	7
N	1.3	2.5	1

TABLE E-87

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	.5	2.0	0
ENE	.8	2.0	1
E	.7	2.1	0
ESE	1.5	2.8	8
SE	1.0	2.4	0
SSE	1.1	2.8	0
S	1.3	3.0	12
SSW	1.5	2.9	4
SW	1.5	2.8	40
WSW	1.7	3.1	24
W	.7	2.0	0
WNW	.5	1.8	0
NW	.8	2.3	4
NNW	.8	2.5	6
N	.9	2.3	0

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	.7	2.1	2
ENE	1.2	2.8	16
E	.7	2.2	0
ESE	1.0	2.6	5
SE	.7	2.2	0
SSE	.9	2.4	0
S	1.0	2.3	3
SSW	1.2	2.3	1
SW	1.1	2.6	40
WSW	.9	2.6	5
W	.7	1.6	0
WNW	.7	2.3	9
NW	.7	2.2	8
NNW	.8	2.2	10
N	.7	1.8	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.3	0
NE	1.0	2.5	1
ENE	1.0	2.7	2
E	1.6	3.1	4
ESE	2.0	3.4	15
SE	1.3	2.5	0
SSE	1.2	2.5	0
S	1.2	2.5	1
SSW	1.2	2.6	0
SW	1.8	2.9	29
WSW	2.1	3.6	31
W	.9	2.0	0
WNW	.8	2.0	0
NW	1.1	2.4	4
NNW	1.4	2.7	12
N	1.4	2.6	1

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.3	0
NE	.8	1.9	0
ENE	.6	2.0	1
E	.6	2.0	0
ESE	1.8	3.1	23
SE	1.2	2.3	0
SSE	1.2	2.7	0
S	1.4	3.2	16
SSW	1.4	2.8	4
SW	1.1	2.5	18
WSW	1.2	2.8	10
W	.6	1.8	0
WNW	.6	2.2	1
NW	.9	2.2	7
NNW	1.0	2.8	19
N	1.0	2.1	1

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.3	0
NE	.9	2.3	5
ENE	.9	2.4	5
E	.7	1.8	0
ESE	1.2	2.6	6
SE	.9	2.1	0
SSE	.9	2.3	0
S	1.1	2.6	8
SSW	1.2	2.1	1
SW	1.3	2.3	30
WSW	1.0	2.0	1
W	.7	1.8	0
WNW	.8	2.2	10
NW	1.0	2.1	12
NNW	1.0	2.4	19
N	.8	2.2	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	2.5	0
NE	.8	2.2	0
ENE	1.0	2.6	1
E	1.6	3.0	3
ESE	2.4	3.8	26
SE	1.3	2.3	0
SSE	1.2	2.2	0
S	1.3	2.6	1
SSW	1.2	2.6	0
SW	1.8	2.9	21
WSW	2.2	3.5	29
W	.9	2.2	0
WNW	1.2	2.6	3
NW	1.4	2.5	8
NNW	1.5	2.6	8
N	1.4	2.7	1

2000 FULL-BUILD PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.2	0
NE	.5	1.8	0
ENE	.5	1.6	0
E	.7	1.7	0
ESE	1.4	2.9	4
SE	1.2	2.3	0
SSE	1.4	2.7	0
S	1.4	3.1	7
SSW	1.5	3.0	5
SW	1.2	2.7	17
WSW	1.2	2.9	7
W	.7	2.0	0
WNW	.8	2.3	4
NW	1.2	2.6	29
NNW	1.5	2.8	25
N	1.3	2.7	2

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	0
NE	.7	1.7	0
ENE	.7	2.0	2
E	.8	1.8	0
ESE	1.0	2.6	3
SE	1.1	2.4	0
SSE	1.0	2.3	0
S	1.3	2.6	11
SSW	1.2	2.1	1
SW	1.1	2.5	22
WSW	1.0	2.0	3
W	.9	1.9	3
WNW	1.0	2.3	25
NW	.7	2.2	8
NNW	1.1	2.4	21
N	.9	2.1	1

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.2	0
NE	1.0	2.2	0
ENE	.8	1.9	0
E	1.3	2.8	2
ESE	2.1	3.5	20
SE	1.4	2.5	0
SSE	1.3	2.5	0
S	1.3	2.7	1
SSW	1.0	2.3	0
SW	1.5	2.8	24
WSW	1.9	3.4	26
W	1.2	2.4	2
WNW	1.2	2.3	8
NW	1.1	2.2	5
NNW	1.3	2.6	10
N	1.3	2.5	1

TABLE E-88

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.4	0
NE	.5	2.1	0
ENE	.7	2.1	0
E	.8	2.0	0
ESE	.5	1.4	0
SE	.4	1.5	0
SSE	.6	1.7	0
S	.5	1.7	0
SSW	.4	1.9	0
SW	2.2	3.9	69
WSW	1.3	3.1	0
W	.7	2.4	0
WNW	1.2	3.0	1
NW	1.3	2.9	6
NNW	1.8	3.2	23
N	1.5	2.9	1

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	2.6	0
NE	.1	1.9	0
ENE	.6	2.2	0
E	.9	2.3	0
ESE	1.2	2.4	0
SE	1.1	2.2	0
SSE	1.5	3.0	1
S	1.5	3.1	5
SSW	1.6	3.0	4
SW	1.4	3.2	21
WSW	2.1	3.5	62
W	.7	2.1	0
WNW	.6	2.9	0
NW	1.1	3.5	7
NNW	.1	2.4	0
N	.1	2.0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	1.9	0
NE	.6	1.7	0
ENE	.8	2.1	0
E	.7	2.0	0
ESE	.9	1.9	0
SE	1.0	2.1	0
SSE	1.2	2.6	0
S	1.2	2.7	1
SSW	1.6	3.1	8
SW	1.6	3.3	53
WSW	.9	2.4	0
W	1.3	2.8	21
WNW	.8	2.2	0
NW	1.1	2.4	14
NNW	1.0	2.3	2
N	1.1	2.2	1

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	0
NE	.5	1.7	0
ENE	.8	2.0	0
E	.6	2.0	0
ESE	.5	1.4	0
SE	.4	1.6	0
SSE	.6	1.7	0
S	.6	1.7	0
SSW	.4	1.8	0
SW	2.0	3.4	51
WSW	1.3	3.0	1
W	.7	2.5	0
WNW	1.4	3.2	7
NW	1.4	3.0	10
NNW	1.8	3.4	30
N	1.6	2.9	2

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	2.3	0
NE	.5	1.7	0
ENE	.6	1.7	0
E	.9	2.0	0
ESE	1.2	2.2	1
SE	1.1	2.1	0
SSE	1.4	2.5	0
S	1.7	3.6	18
SSW	1.6	2.8	6
SW	1.0	3.0	3
WSW	1.9	3.2	50
W	.5	2.1	0
WNW	.8	3.0	0
NW	1.2	3.4	22
NNW	.6	2.5	0
N	.2	2.0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.1	0
NE	.5	1.7	0
ENE	.7	2.1	0
E	.7	1.8	0
ESE	.9	2.0	0
SE	.8	2.1	0
SSE	1.1	2.7	0
S	1.2	2.9	2
SSW	1.6	3.3	9
SW	1.5	3.1	57
WSW	.7	2.5	0
W	1.3	2.6	20
WNW	.9	2.8	1
NW	1.0	2.4	5
NNW	1.0	2.3	4
N	1.1	2.1	1

2000 FULL-BUILD PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.0	3.7	13
NE	1.3	3.0	4
ENE	.6	1.7	0
E	.8	2.3	0
ESE	.6	2.0	0
SE	.8	1.9	0
SSE	.5	1.4	0
S	.7	2.0	0
SSW	.5	1.5	0
SW	1.7	3.2	50
WSW	1.3	2.9	3
W	.9	2.3	0
WNW	1.2	2.9	8
NW	1.1	2.6	6
NNW	1.3	3.3	9
N	1.6	3.4	7

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.3	1.6	0
NE	.5	1.4	0
ENE	.5	1.6	0
E	.8	2.0	0
ESE	1.0	2.0	0
SE	.6	1.6	0
SSE	1.1	2.3	0
S	1.2	3.0	1
SSW	1.3	2.8	1
SW	1.1	3.0	3
WSW	1.9	3.4	43
W	.5	2.1	0
WNW	.6	3.0	0
NW	1.2	3.5	17
NNW	1.5	3.6	34
N	.6	2.5	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.6	0
NE	.5	1.6	0
ENE	.8	1.9	0
E	.5	2.3	0
ESE	.7	1.8	0
SE	.8	2.0	0
SSE	1.0	2.5	0
S	1.3	2.8	2
SSW	1.5	3.2	5
SW	1.5	3.1	51
WSW	.9	2.5	0
W	1.4	2.8	32
WNW	.8	2.2	0
NW	1.0	2.2	7
NNW	1.0	2.2	3
N	.7	1.8	0

TABLE E-89

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.4	0
NE	.5	2.1	0
ENE	.7	2.1	0
E	.8	2.0	0
ESE	.5	1.4	0
SE	.4	1.5	0
SSE	.6	1.7	0
S	.5	1.7	0
SSW	.4	1.9	0
SW	2.2	3.9	57
WSW	1.3	3.1	1
W	.7	2.4	0
WNW	1.2	3.0	8
NW	1.3	2.9	13
NNW	1.8	3.2	19
N	1.5	2.9	1

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	2.6	0
NE	.1	1.9	0
ENE	.6	2.2	0
E	.9	2.3	0
ESE	1.2	2.4	0
SE	1.1	2.2	0
SSE	1.5	3.0	0
S	1.5	3.1	5
SSW	1.6	3.0	2
SW	1.4	3.2	24
WSW	2.1	3.5	30
W	.7	2.1	0
WNW	.6	2.9	2
NW	1.1	3.5	36
NNW	.1	2.4	0
N	.1	2.0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	1.9	0
NE	.6	1.7	0
ENE	.8	2.1	0
E	.7	2.0	0
ESE	.9	1.9	0
SE	1.0	2.1	0
SSE	1.2	2.6	0
S	1.2	2.7	3
SSW	1.6	3.1	6
SW	1.6	3.3	53
WSW	.9	2.4	0
W	1.3	2.8	17
WNW	.8	2.2	2
NW	1.1	2.4	17
NNW	1.0	2.3	2
N	1.1	2.2	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	0
NE	.5	1.7	0
ENE	.8	2.0	0
E	.6	2.0	0
ESE	.5	1.4	0
SE	.4	1.6	0
SSE	.6	1.7	0
S	.6	1.7	0
SSW	.4	1.8	0
SW	2.0	3.4	37
WSW	1.3	3.0	1
W	.7	2.5	0
WNW	1.4	3.2	18
NW	1.4	3.0	14
NNW	1.8	3.4	29
N	1.6	2.9	1

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	2.3	0
NE	.5	1.7	0
ENE	.6	1.7	0
E	.9	2.0	0
ESE	1.2	2.2	0
SE	1.1	2.1	0
SSE	1.4	2.5	0
S	1.7	3.6	11
SSW	1.6	2.8	2
SW	1.0	3.0	12
WSW	1.9	3.2	20
W	.5	2.1	0
WNW	.8	3.0	8
NW	1.2	3.4	46
NNW	.6	2.5	1
N	.2	2.0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.1	0
NE	.5	1.7	0
ENE	.7	2.1	0
E	.7	1.8	0
ESE	.9	2.0	0
SE	.8	2.1	0
SSE	1.1	2.7	0
S	1.2	2.9	4
SSW	1.6	3.3	8
SW	1.5	3.1	47
WSW	.7	2.5	1
W	1.3	2.6	18
WNW	.9	2.8	7
NW	1.0	2.4	10
NNW	1.0	2.3	4
N	1.1	2.1	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.0	3.7	8
NE	1.3	3.0	5
ENE	.6	1.7	0
E	.8	2.3	0
ESE	.6	2.0	0
SE	.8	1.9	0
SSE	.5	1.4	0
S	.7	2.0	0
SSW	.5	1.5	0
SW	1.7	3.2	33
WSW	1.3	2.9	3
W	.9	2.3	0
WNW	1.2	2.9	15
NW	1.1	2.6	11
NNW	1.3	3.3	17
N	1.6	3.4	6

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.3	1.6	0
NE	.5	1.4	0
ENE	.5	1.6	0
E	.8	2.0	0
ESE	1.0	2.0	0
SE	.6	1.6	0
SSE	1.1	2.3	0
S	1.2	3.0	1
SSW	1.3	2.8	1
SW	1.1	3.0	10
WSW	1.9	3.4	19
W	.5	2.1	0
WNW	.6	3.0	3
NW	1.2	3.5	30
NNW	1.5	3.6	37
N	.6	2.5	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.6	0
NE	.5	1.6	0
ENE	.8	1.9	0
E	.5	2.3	0
ESE	.7	1.8	0
SE	.8	2.0	0
SSE	1.0	2.5	0
S	1.3	2.8	4
SSW	1.5	3.2	7
SW	1.5	3.1	48
WSW	.9	2.5	1
W	1.4	2.8	26
WNW	.8	2.2	2
NW	1.0	2.2	9
NNW	1.0	2.2	3
N	.7	1.8	0

TABLE E-90

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	0
NE	.8	1.8	0
ENE	.9	2.3	0
E	1.7	3.3	2
ESE	2.2	3.2	17
SE	1.4	2.5	0
SSE	1.3	2.7	0
S	1.3	2.8	0
SSW	.8	2.3	0
SW	1.5	3.0	10
WSW	2.5	3.9	56
W	1.4	2.5	2
WNW	1.1	2.5	0
NW	1.3	2.4	3
NNW	1.4	2.9	3
N	1.2	2.8	0

LOCATION 56

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	2.0	0
NE	.7	2.0	0
ENE	1.2	2.5	1
E	1.8	3.1	5
ESE	2.2	3.2	26
SE	1.6	2.8	0
SSE	1.3	2.4	0
S	1.4	2.5	1
SSW	.9	2.5	0
SW	1.5	3.2	12
WSW	2.3	3.8	46
W	1.4	2.6	4
WNW	1.2	2.3	3
NW	1.1	2.5	2
NNW	1.1	2.4	1
N	.9	2.7	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.6	0
NE	.4	1.6	0
ENE	.7	1.9	0
E	1.0	2.5	0
ESE	1.3	3.1	0
SE	1.1	2.5	0
SSE	.8	2.2	0
S	.7	1.8	0
SSW	1.0	2.3	0
SW	1.9	3.6	25
WSW	2.8	4.3	68
W	1.6	3.0	5
WNW	1.0	2.5	0
NW	1.2	2.4	1
NNW	.5	1.8	0
N	.5	1.8	0

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.2	2.6	0
NE	.9	2.2	0
ENE	1.0	2.5	0
E	1.7	3.2	1
ESE	2.3	3.5	15
SE	1.6	2.6	0
SSE	1.3	2.4	0
S	1.3	2.7	0
SSW	.8	2.2	0
SW	1.3	2.8	1
WSW	2.7	4.2	56
W	1.3	2.6	0
WNW	1.4	2.7	3
NW	1.5	2.8	10
NNW	1.7	3.2	10
N	1.8	3.5	2

LOCATION 56

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.3	0
NE	.9	2.1	0
ENE	1.2	2.6	1
E	1.8	2.9	6
ESE	2.2	3.2	28
SE	1.7	2.6	0
SSE	1.4	2.4	0
S	1.4	2.4	1
SSW	1.1	2.5	0
SW	1.7	2.8	2
WSW	2.2	3.8	41
W	1.2	2.8	1
WNW	1.3	2.7	10
NW	1.2	3.6	5
NNW	1.2	2.6	4
N	1.1	2.6	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.4	1.4	0
NE	.5	1.5	0
ENE	.8	1.8	0
E	1.0	2.4	0
ESE	1.2	3.0	0
SE	1.1	2.6	0
SSE	.8	2.3	0
S	.7	2.1	0
SSW	1.0	2.4	0
SW	1.6	3.5	17
WSW	2.5	4.3	60
W	1.6	3.3	10
WNW	1.2	2.6	1
NW	1.4	2.8	12
NNW	.6	1.7	0
N	.8	1.6	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	1.9	0
NE	1.2	2.5	0
ENE	1.3	2.5	0
E	1.8	3.0	2
ESE	2.2	3.3	11
SE	1.7	2.7	0
SSE	1.3	2.4	0
S	1.3	2.6	0
SSW	.8	3.2	0
SW	1.5	3.0	3
WSW	2.8	4.4	66
W	1.5	2.7	3
WNW	1.6	2.7	11
NW	1.3	2.6	2
NNW	1.1	2.4	0
N	1.1	2.5	0

LOCATION 56

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.8	0
NE	1.1	2.8	0
ENE	1.4	2.7	2
E	1.9	3.0	5
ESE	2.3	3.4	22
SE	1.9	2.8	1
SSE	1.5	2.7	0
S	1.5	2.6	1
SSW	1.2	2.5	0
SW	1.3	3.0	3
WSW	2.4	4.0	47
W	1.5	3.1	7
WNW	1.4	2.7	11
NW	1.1	2.6	1
NNW	1.1	2.4	0
N	1.1	3.0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.1	1.7	0
NE	.6	1.7	0
ENE	.8	1.8	0
E	.9	2.0	0
ESE	1.1	2.3	0
SE	1.0	2.2	0
SSE	.9	2.6	0
S	.7	2.0	0
SSW	1.0	2.5	0
SW	2.0	3.7	31
WSW	2.7	4.4	55
W	1.7	3.2	13
WNW	1.1	2.7	0
NW	1.1	2.2	1
NNW	.8	1.8	0
N	.6	1.6	0

TABLE E-91
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	0
NE	.8	1.8	0
ENE	.9	2.3	1
E	1.7	3.3	2
ESE	2.2	3.2	9
SE	1.4	2.5	0
SSE	1.3	2.7	0
S	1.3	2.8	1
SSW	.8	2.3	0
SW	1.5	3.0	20
WSW	2.5	3.9	45
W	1.4	2.5	4
WNW	1.1	2.5	2
NW	1.3	2.4	5
NNW	1.4	2.9	11
N	1.2	2.8	1

LOCATION 56

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	2.0	0
NE	.7	2.0	0
ENE	1.2	2.5	2
E	1.8	3.1	4
ESE	2.2	3.2	11
SE	1.6	2.8	0
SSE	1.3	2.4	0
S	1.4	2.5	1
SSW	.9	2.5	0
SW	1.5	3.2	25
WSW	2.3	3.8	39
W	1.4	2.6	6
WNW	1.2	2.3	4
NW	1.1	2.5	5
NNW	1.1	2.4	3
N	.9	2.7	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.6	0
NE	.4	1.6	0
ENE	.7	1.9	0
E	1.0	2.5	0
ESE	1.3	3.1	0
SE	1.1	2.5	0
SSE	.8	2.3	0
S	.7	1.8	0
SSW	1.0	2.3	0
SW	1.9	3.6	38
WSW	2.8	4.3	49
W	1.6	3.0	8
WNW	1.0	2.5	1
NW	1.2	2.4	4
NNW	.5	1.8	0
N	.5	1.8	0

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.2	2.6	0
NE	.9	2.2	0
ENE	1.0	2.5	1
E	1.7	3.2	1
ESE	2.3	3.5	5
SE	1.6	2.6	0
SSE	1.3	2.4	0
S	1.3	2.7	0
SSW	.8	2.2	0
SW	1.3	2.8	3
WSW	2.7	4.2	43
W	1.3	2.6	1
WNW	1.4	2.7	4
NW	1.5	2.8	12
NNW	1.7	3.2	22
N	1.8	3.5	4

LOCATION 56

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.3	0
NE	.9	2.1	0
ENE	1.2	2.6	2
E	1.8	2.9	3
ESE	2.2	3.2	11
SE	1.7	2.6	0
SSE	1.4	2.4	0
S	1.4	2.4	0
SSW	1.1	2.5	0
SW	1.2	2.8	9
WSW	2.2	3.8	38
W	1.2	2.8	4
WNW	1.3	2.7	9
NW	1.2	3.6	16
NNW	1.2	2.6	7
N	1.1	2.6	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.4	1.4	0
NE	.5	1.5	0
ENE	.8	1.8	0
E	1.0	2.4	0
ESE	1.2	3.0	0
SE	1.1	2.6	0
SSE	.8	2.3	0
S	.7	2.1	0
SSW	1.0	2.4	0
SW	1.6	3.5	25
WSW	2.5	4.3	44
W	1.6	3.3	16
WNW	1.2	2.6	3
NW	1.4	2.8	12
NNW	.6	1.7	0
N	.8	1.6	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	1.9	0
NE	1.2	2.5	0
ENE	1.3	2.5	0
E	1.8	3.0	2
ESE	2.2	3.3	7
SE	1.7	2.7	0
SSE	1.3	2.4	0
S	1.3	2.6	0
SSW	.8	3.2	0
SW	1.5	3.0	9
WSW	2.8	4.4	56
W	1.5	2.7	4
WNW	1.6	2.7	11
NW	1.3	2.6	7
NNW	1.1	2.4	2
N	1.1	2.5	0

LOCATION 56

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.8	0
NE	1.1	2.8	1
ENE	1.4	2.7	3
E	1.9	3.0	3
ESE	2.3	3.4	9
SE	1.9	2.8	0
SSE	1.5	2.7	0
S	1.5	2.6	1
SSW	1.2	2.5	0
SW	1.3	3.0	10
WSW	2.4	4.0	43
W	1.5	3.1	11
WNW	1.4	2.7	10
NW	1.1	2.6	5
NNW	1.1	2.6	3
N	1.1	3.0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.1	1.7	0
NE	.6	1.7	0
ENE	.8	1.8	0
E	.9	2.0	0
ESE	1.1	2.3	0
SE	1.0	2.2	0
SSE	.9	2.6	0
S	.7	2.0	0
SSW	1.0	2.5	0
SW	2.0	3.7	36
WSW	2.7	4.4	45
W	1.7	3.2	16
WNW	1.1	2.7	2
NW	1.1	2.2	1
NNW	.8	1.8	0
N	.6	1.6	0

TABLE E-92
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	2.1	0
NE	.8	1.9	0
ENE	.8	2.4	0
E	1.5	3.1	3
ESE	2.3	3.6	54
SE	1.6	2.9	0
SSE	1.6	3.0	0
S	1.7	3.1	9
SSW	1.0	2.7	0
SW	1.2	2.8	3
WSW	1.8	3.1	16
W	1.1	2.3	1
WNW	1.2	2.3	6
NW	1.2	2.6	5
NNW	1.1	2.4	1
N	1.1	2.7	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	1.6	0
NE	.6	1.7	0
ENE	.8	2.1	0
E	1.0	2.4	1
ESE	1.0	2.4	0
SE	1.1	2.7	0
SSE	1.4	2.9	1
S	1.7	3.0	31
SSW	1.6	3.2	16
SW	1.4	3.0	50
WSW	1.0	2.7	1
W	.6	2.0	0
WNW	.6	1.6	0
NW	.7	1.9	0
NNW	.8	2.0	1
N	.6	1.8	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.1	0
NE	.7	2.1	0
ENE	.6	1.8	0
E	.7	2.0	0
ESE	1.0	2.0	0
SE	1.0	2.2	0
SSE	.5	2.0	0
S	.6	2.1	0
SSW	.7	2.5	0
SW	.9	2.7	0
WSW	1.3	2.7	1
W	1.3	3.0	5
WNW	1.5	3.4	38
NW	1.7	3.4	54
NNW	1.1	2.5	3
N	.4	2.1	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	2.2	0
NE	.8	2.4	0
ENE	1.0	2.7	0
E	1.9	3.5	8
ESE	2.5	4.1	63
SE	1.7	3.2	0
SSE	1.6	3.0	0
S	1.6	3.2	3
SSW	1.2	3.0	0
SW	1.0	2.8	0
WSW	1.9	3.6	21
W	1.0	2.4	0
WNW	1.2	2.2	2
NW	1.0	2.5	1
NNW	1.1	2.5	1
N	.7	2.2	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.0	0
NE	1.1	2.5	2
ENE	1.3	2.8	7
E	1.0	2.5	0
ESE	.9	2.6	0
SE	1.1	2.7	0
SSE	1.3	3.1	0
S	1.9	3.5	39
SSW	1.8	3.3	17
SW	1.4	3.2	32
WSW	1.0	2.6	0
W	.8	2.6	0
WNW	.6	2.0	0
NW	.8	1.9	1
NNW	.8	2.5	0
N	.5	1.6	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.8	0
NE	.6	2.1	0
ENE	.5	1.4	0
E	.6	2.4	0
ESE	1.0	2.2	0
SE	1.0	2.3	0
SSE	.8	2.5	0
S	.7	2.5	0
SSW	.7	2.6	0
SW	1.0	2.8	2
WSW	1.0	2.6	0
W	.9	2.6	1
WNW	1.2	2.6	19
NW	1.5	3.2	78
NNW	.7	2.2	0
N	.6	1.8	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.3	2.1	0
NE	.8	2.5	0
ENE	1.0	2.6	1
E	1.6	3.2	4
ESE	2.0	3.7	31
SE	1.7	2.9	1
SSE	1.6	3.2	1
S	1.5	3.2	4
SSW	1.2	3.0	0
SW	1.0	2.5	1
WSW	2.0	3.8	41
W	1.3	2.8	6
WNW	1.1	2.1	3
NW	1.1	2.2	4
NNW	1.1	2.6	4
N	1.2	3.1	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	0
NE	.9	2.5	1
ENE	1.5	2.6	14
E	.9	2.5	0
ESE	.8	2.4	0
SE	.8	2.3	0
SSE	1.2	2.9	0
S	1.9	3.4	47
SSW	1.8	3.3	17
SW	1.2	3.2	18
WSW	1.0	2.6	0
W	.8	2.3	0
WNW	.6	1.7	0
NW	.7	2.1	0
NNW	.9	2.3	2
N	.8	2.5	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	2.3	0
NE	.6	2.2	0
ENE	.5	1.5	0
E	.6	1.7	0
ESE	.6	1.8	0
SE	.8	2.3	0
SSE	.8	2.3	0
S	.7	2.5	0
SSW	.8	2.5	0
SW	1.0	2.8	5
WSW	.8	2.6	0
W	.8	2.3	0
WNW	1.2	2.8	43
NW	1.3	2.8	46
NNW	.9	2.3	3
N	1.3	3.2	4

TABLE E-93

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	2.1	0
NE	.8	1.9	0
ENE	.8	2.4	0
E	1.5	3.1	5
ESE	2.3	3.6	32
SE	1.6	2.9	0
SSE	1.6	3.0	1
S	1.7	3.1	11
SSW	1.0	2.7	0
SW	1.2	2.8	9
WSW	1.8	3.1	18
W	1.1	2.3	2
WNW	1.2	2.3	9
NW	1.2	2.6	8
NNW	1.1	2.4	3
N	1.1	2.7	1

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	1.6	0
NE	.6	1.7	0
ENE	.8	2.1	1
E	1.0	2.4	1
ESE	1.0	2.4	1
SE	1.1	2.7	0
SSE	1.4	2.9	1
S	1.7	3.0	19
SSW	1.6	3.2	10
SW	1.4	3.0	59
WSW	1.0	2.7	4
W	.6	2.0	0
WNW	.6	1.6	0
NW	.7	1.9	1
NNW	.8	2.0	1
N	.6	1.8	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.1	0
NE	.7	2.1	0
ENE	.6	1.8	0
E	.7	2.0	0
ESE	1.0	2.0	0
SE	1.0	2.2	0
SSE	.5	2.0	0
S	.6	2.1	0
SSW	.7	2.5	0
SW	.9	2.7	2
WSW	1.3	2.7	1
W	1.3	3.0	10
WNW	1.5	3.4	41
NW	1.7	3.4	44
NNW	1.1	2.5	2
N	.4	2.1	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	2.2	0
NE	.8	2.4	0
ENE	1.0	2.7	1
E	1.9	3.5	12
ESE	2.5	4.1	41
SE	1.7	3.2	0
SSE	1.6	3.0	0
S	1.6	3.2	6
SSW	1.2	3.0	1
SW	1.0	2.8	3
WSW	1.9	3.6	25
W	1.0	2.4	1
WNW	1.2	2.2	3
NW	1.0	2.5	3
NNW	1.1	2.5	4
N	.7	2.2	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.0	0
NE	1.1	2.5	3
ENE	1.3	2.8	10
E	1.0	2.5	0
ESE	.9	2.6	0
SE	1.1	2.7	0
SSE	1.3	3.1	1
S	1.9	3.5	23
SSW	1.8	3.3	10
SW	1.4	3.2	47
WSW	1.0	2.6	2
W	.8	2.6	1
WNW	.6	2.0	0
NW	.8	1.9	1
NNW	.8	2.5	2
N	.5	1.6	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.8	0
NE	.6	2.1	0
ENE	.5	1.4	0
E	.6	2.4	0
ESE	1.0	2.2	0
SE	1.0	2.3	0
SSE	.8	2.5	0
S	.7	2.5	0
SSW	.7	2.6	0
SW	1.0	2.8	6
WSW	1.0	2.6	1
W	.9	2.6	2
WNW	1.2	2.6	19
NW	1.5	3.2	71
NNW	.7	2.2	1
N	.6	1.8	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.3	2.1	0
NE	.8	2.5	0
ENE	1.0	2.6	2
E	1.6	3.2	6
ESE	2.0	3.7	22
SE	1.7	2.9	0
SSE	1.6	3.2	0
S	1.5	3.2	6
SSW	1.2	3.0	1
SW	1.0	2.5	3
WSW	2.0	3.8	37
W	1.3	2.8	8
WNW	1.1	2.1	1
NW	1.1	2.2	3
NNW	1.1	2.6	7
N	1.2	3.1	2

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	0
NE	.9	2.5	3
ENE	1.5	2.6	12
E	.9	2.5	1
ESE	.8	2.4	0
SE	.8	2.3	0
SSE	1.2	2.9	0
S	1.9	3.4	29
SSW	1.8	3.3	10
SW	1.2	3.2	36
WSW	1.0	2.5	2
W	.8	2.3	0
WNW	.6	1.7	0
NW	.7	2.1	2
NNW	.9	2.3	5
N	.8	2.5	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	2.3	0
NE	.6	2.2	0
ENE	.5	1.5	0
E	.6	1.7	0
ESE	.6	1.8	0
SE	.8	2.3	0
SSE	.8	2.3	0
S	.7	2.5	0
SSW	.8	2.5	0
SW	1.0	2.8	9
WSW	.8	2.6	1
W	.8	2.3	1
WNW	1.2	2.8	44
NW	1.3	2.8	37
NNW	.9	2.3	4
N	1.3	3.2	4

TABLE E-94

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.1	2.1	0
NE	.6	1.9	0
ENE	.6	2.0	0
E	.8	2.4	0
ESE	.6	1.8	0
SE	.6	1.9	0
SSE	.9	2.2	0
S	.6	2.0	0
SSW	.6	2.0	0
SW	.4	1.5	0
WSW	.4	1.5	0
W	1.4	2.4	19
WNW	1.4	2.4	32
NW	1.5	2.5	48
NNW	1.0	2.1	1
N	.9	2.0	0

1995 INTERIM BUILD
PRE MITIGATION

LOCATION 61

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.5	0
NE	.9	2.2	0
ENE	.7	2.1	0
E	1.3	2.6	2
ESE	1.4	2.6	4
SE	1.4	3.0	0
SSE	1.1	3.1	0
S	.9	2.4	0
SSW	.9	2.4	0
SW	1.1	2.9	4
WSW	1.3	2.9	5
W	1.4	3.0	28
WNW	1.4	3.1	46
NW	1.1	2.3	11
NNW	.8	2.1	0
N	.6	2.3	0

LOCATION 62

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	.7	1.9	0
ENE	1.1	2.5	2
E	1.1	2.5	0
ESE	1.6	2.8	11
SE	1.0	2.0	0
SSE	.5	1.5	0
S	.5	1.1	0
SSW	.7	2.1	0
SW	1.3	3.0	19
WSW	2.0	4.2	67
W	1.0	3.1	1
WNW	.5	1.5	0
NW	.6	1.8	0
NNW	.8	1.8	0
N	.6	1.8	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.0	0
NE	.7	1.8	0
ENE	1.0	2.5	1
E	1.3	2.8	2
ESE	1.5	2.7	6
SE	.6	1.9	0
SSE	.8	2.5	0
S	.7	2.3	0
SSW	.9	2.6	0
SW	.2	1.7	0
WSW	.9	1.6	0
W	1.4	2.6	17
WNW	1.3	2.3	20
NW	1.5	2.3	48
NNW	.9	2.1	1
N	.8	2.2	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 61

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.0	0
NE	.8	2.5	0
ENE	.7	2.0	0
E	1.3	2.6	3
ESE	1.3	2.5	3
SE	1.5	2.8	1
SSE	1.1	2.8	0
S	.9	2.8	0
SSW	1.0	2.4	0
SW	1.1	2.8	11
WSW	1.3	2.9	10
W	1.2	2.7	12
WNW	1.3	2.8	42
NW	1.1	2.6	15
NNW	.9	2.4	2
N	1.1	2.8	1

LOCATION 62

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	2.0	0
NE	.8	2.1	0
ENE	1.1	2.4	3
E	1.1	2.2	1
ESE	1.4	2.6	5
SE	1.1	2.1	0
SSE	.6	1.6	0
S	.4	1.3	0
SSW	.6	2.0	0
SW	1.4	3.2	26
WSW	2.0	4.0	64
W	.6	2.1	0
WNW	.5	2.0	0
NW	.7	2.1	0
NNW	.8	1.6	1
N	.7	2.2	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.0	2.2	1
NE	.8	1.9	1
ENE	1.0	2.6	5
E	1.3	2.9	16
ESE	1.5	2.9	39
SE	1.2	2.5	1
SSE	1.3	3.1	1
S	1.1	3.6	7
SSW	1.0	2.9	1
SW	.4	1.6	0
WSW	.7	1.4	0
W	.3	2.0	0
WNW	.8	1.9	6
NW	.9	1.9	11
NNW	.9	2.1	9
N	1.0	2.1	2

TABLE E-95
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.1	2.1	0
NE	.6	1.9	0
ENE	.6	2.0	0
E	.8	2.4	0
ESE	.6	1.8	0
SE	.6	1.9	0
SSE	.9	2.2	0
S	.6	2.0	0
SSW	.6	2.0	0
SW	.4	1.5	0
WSW	.4	1.5	0
W	1.4	2.4	19
WNW	1.4	2.4	28
NW	1.5	2.5	46
NNW	1.0	2.1	5
N	.9	2.0	0

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 61

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.5	0
NE	.9	2.2	0
ENE	.7	2.1	0
E	1.3	2.6	1
ESE	1.4	2.6	1
SE	1.4	3.0	0
SSE	1.1	3.1	0
S	.9	2.4	0
SSW	.9	2.4	0
SW	1.1	2.9	8
WSW	1.3	2.9	4
W	1.4	3.0	25
WNW	1.4	3.1	52
NW	1.1	2.3	7
NNW	.8	2.1	1
N	.6	2.3	0

LOCATION 62

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	.7	1.9	0
ENE	1.1	2.5	4
E	1.1	2.5	0
ESE	1.6	2.8	4
SE	1.0	2.0	0
SSE	.5	1.5	0
S	.5	1.1	0
SSW	.7	2.1	0
SW	1.3	3.0	20
WSW	2.0	4.2	64
W	1.0	3.1	6
WNW	.5	1.5	0
NW	.6	1.8	0
NNW	.8	1.8	0
N	.6	1.8	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.0	0
NE	.7	1.8	0
ENE	1.0	2.5	4
E	1.3	2.8	6
ESE	1.5	2.7	8
SE	.6	1.9	0
SSE	.8	2.5	0
S	.7	2.3	0
SSW	.9	2.6	0
SW	.2	1.7	0
WSW	.9	1.6	0
W	1.4	2.6	15
WNW	1.3	2.3	25
NW	1.5	2.3	37
NNW	.9	2.1	4
N	.8	2.2	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 61

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.0	0
NE	.8	2.5	1
ENE	.7	2.0	0
E	1.3	2.6	2
ESE	1.3	2.5	1
SE	1.5	2.8	0
SSE	1.1	2.8	0
S	.9	2.8	1
SSW	1.0	2.4	0
SW	1.1	2.8	16
WSW	1.3	2.9	10
W	1.2	2.7	11
WNW	1.3	2.8	39
NW	1.1	2.6	14
NNW	.9	2.4	4
N	1.1	2.8	1

LOCATION 62

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	2.0	0
NE	.8	2.1	0
ENE	1.1	2.4	4
E	1.1	2.2	0
ESE	1.4	2.6	2
SE	1.1	2.1	0
SSE	.6	1.6	0
S	.4	1.3	0
SSW	.6	2.0	0
SW	1.4	3.2	29
WSW	2.0	4.0	64
W	.6	2.1	0
WNW	.5	2.0	0
NW	.7	2.1	1
NNW	.8	1.6	1
N	.7	2.2	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.0	2.2	1
NE	.8	1.9	1
ENE	1.0	2.6	7
E	1.3	2.9	11
ESE	1.5	2.9	21
SE	1.2	2.5	0
SSE	1.3	3.1	2
S	1.1	3.6	36
SSW	1.0	2.9	4
SW	.4	1.6	0
WSW	.7	1.4	0
W	.3	2.0	0
WNW	.8	1.9	3
NW	.9	1.9	6
NNW	.9	2.1	5
N	1.0	2.1	2

TABLE E-96
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 64

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	1.7	1
NE	.1	1.6	0
ENE	.3	1.6	0
E	.7	2.0	0
ESE	.6	1.6	0
SE	.1	1.7	0
SSE	.1	1.7	0
S	.6	1.8	0
SSW	.6	1.5	0
SW	1.1	2.3	39
WSW	1.2	2.2	22
W	.6	2.0	0
WNW	.7	1.9	1
NW	.7	2.0	2
NNW	1.1	2.0	34
N	.8	1.6	1

LOCATION 65

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	2.1	13
NE	.9	1.8	5
ENE	.6	2.0	0
E	.7	1.6	0
ESE	.8	1.7	0
SE	.6	2.0	0
SSE	.6	1.7	0
S	.7	1.9	0
SSW	.5	1.7	0
SW	.5	1.5	0
WSW	1.0	2.0	5
W	1.0	1.9	31
WNW	1.0	1.9	36
NW	.6	1.7	1
NNW	.7	2.0	3
N	1.0	2.0	5

LOCATION 66

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.7	4
NE	.5	1.4	0
ENE	.4	1.5	0
E	.7	1.6	5
ESE	.5	1.3	0
SE	.4	1.6	0
SSE	.4	1.5	0
S	.1	1.4	0
SSW	.2	1.7	0
SW	.7	1.5	24
WSW	.1	1.5	0
W	.1	1.4	0
WNW	.5	1.7	3
NW	.6	1.8	14
NNW	.7	1.8	37
N	.8	1.7	12

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 64

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	1.7	2
NE	.4	1.4	0
ENE	.5	1.5	0
E	.8	2.2	0
ESE	.7	1.9	0
SE	.6	1.5	0
SSE	.7	1.5	0
S	.7	1.7	0
SSW	.8	1.6	0
SW	1.1	2.4	41
WSW	1.1	2.0	11
W	.7	2.0	1
WNW	.1	1.6	0
NW	.9	2.1	18
NNW	1.0	2.1	22
N	1.0	1.9	5

LOCATION 65

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.0	12
NE	.7	1.7	1
ENE	.6	1.5	1
E	.9	1.9	3
ESE	1.0	2.4	7
SE	.7	1.5	0
SSE	.6	1.4	0
S	.6	1.4	0
SSW	.7	1.7	0
SW	.5	1.5	0
WSW	1.1	1.9	23
W	1.0	1.8	34
WNW	.7	1.6	6
NW	.7	1.7	4
NNW	.7	1.7	4
N	1.0	1.9	6

LOCATION 66

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.5	0
NE	.4	1.3	0
ENE	.5	1.3	2
E	.5	1.4	0
ESE	.6	1.3	1
SE	.5	1.2	0
SSE	.1	1.2	0
S	.5	1.2	0
SSW	.3	1.2	0
SW	.4	1.3	0
WSW	.5	1.3	0
W	.2	1.3	0
WNW	.7	1.5	40
NW	.6	1.7	14
NNW	.7	1.6	42
N	.5	1.4	1

2000 FULL-BUILD PRE-MITIGATION

LOCATION 64

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	1.9	1
NE	1.0	1.8	2
ENE	.4	1.7	0
E	1.2	2.7	3
ESE	.8	1.8	0
SE	.6	1.5	0
SSE	.5	1.7	0
S	1.1	2.1	1
SSW	.8	1.8	0
SW	.8	2.0	1
WSW	1.1	2.4	2
W	1.4	2.5	39
WNW	1.2	2.3	41
NW	.7	2.0	0
NNW	1.1	2.4	8
N	1.2	2.0	2

LOCATION 65

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.2	2
NE	1.1	2.2	5
ENE	.8	1.8	1
E	1.0	2.0	1
ESE	1.0	2.2	0
SE	.6	1.4	0
SSE	1.0	1.8	0
S	1.2	2.0	3
SSW	.8	1.7	0
SW	.9	1.7	2
WSW	.9	1.7	0
W	.9	2.1	2
WNW	1.3	2.3	84
NW	.7	1.8	0
NNW	.7	1.8	0
N	.9	2.0	0

LOCATION 66

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	1.8	3
NE	.6	1.6	0
ENE	.5	1.3	0
E	.6	1.5	0
ESE	.5	1.4	0
SE	.4	1.3	0
SSE	.4	1.3	0
S	.7	1.6	0
SSW	.5	1.4	0
SW	.6	1.4	0
WSW	.2	1.4	0
W	.9	1.8	11
WNW	.9	1.9	43
NW	.7	1.9	4
NNW	1.0	2.4	29
N	1.1	2.0	11

TABLE E-97

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 64

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	1.7	0
NE	.1	1.6	0
ENE	.3	1.6	0
E	.7	2.0	0
ESE	.6	1.6	0
SE	.1	1.7	0
SSE	.1	1.7	0
S	.6	1.8	0
SSW	.6	1.5	0
SW	1.1	2.3	48
WSW	1.2	2.2	17
W	.6	2.0	4
WNW	.7	1.9	0
NW	.7	2.0	8
NNW	1.1	2.0	22
N	.8	1.6	0

LOCATION 65

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	2.1	8
NE	.9	1.8	12
ENE	.6	2.0	2
E	.7	1.6	0
ESE	.8	1.7	0
SE	.6	2.0	0
SSE	.6	1.7	0
S	.7	1.9	0
SSW	.5	1.7	0
SW	.5	1.5	1
WSW	1.0	2.0	12
W	1.0	1.9	35
WNW	1.0	1.9	2
NW	.6	1.7	7
NNW	.7	2.0	16
N	1.0	2.0	7

LOCATION 66

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.7	3
NE	.5	1.4	0
ENE	.4	1.5	0
E	.7	1.6	0
ESE	.5	1.3	0
SE	.4	1.6	0
SSE	.4	1.5	0
S	.1	1.4	0
SSW	.2	1.7	0
SW	.7	1.5	10
WSW	.1	1.5	0
W	.1	1.4	0
WNW	.5	1.7	0
NW	.6	1.8	37
NNW	.7	1.8	41
N	.8	1.7	9

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 64

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	1.7	0
NE	.4	1.4	0
ENE	.5	1.5	0
E	.8	2.2	1
ESE	.7	1.9	0
SE	.6	1.5	0
SSE	.7	1.5	0
S	.7	1.7	0
SSW	.8	1.6	0
SW	1.1	2.4	43
WSW	1.1	2.0	8
W	.7	2.0	6
WNW	.1	1.6	0
NW	.9	2.1	22
NNW	1.0	2.1	17
N	1.0	1.9	1

LOCATION 65

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.0	6
NE	.7	1.7	3
ENE	.6	1.5	1
E	.9	1.9	3
ESE	1.0	2.4	15
SE	.7	1.5	0
SSE	.6	1.4	0
S	.6	1.4	0
SSW	.7	1.7	0
SW	.5	1.5	1
WSW	1.1	1.9	17
W	1.0	1.8	23
WNW	.7	1.6	8
NW	.7	1.7	10
NNW	.7	1.7	8
N	1.0	1.9	6

LOCATION 66

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.5	0
NE	.4	1.3	0
ENE	.5	1.3	2
E	.5	1.4	0
ESE	.6	1.3	0
SE	.5	1.2	0
SSE	.1	1.2	0
S	.5	1.2	0
SSW	.3	1.2	0
SW	.4	1.3	0
WSW	.5	1.3	0
W	.2	1.3	0
WNW	.7	1.5	23
NW	.6	1.7	51
NNW	.7	1.6	22
N	.5	1.4	1

2000 FULL-BUILD PRE-MITIGATION

LOCATION 64

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	1.9	0
NE	1.0	1.8	1
ENE	.4	1.7	0
E	1.2	2.7	5
ESE	.8	1.8	0
SE	.6	1.5	0
SSE	.5	1.7	0
S	1.1	2.1	1
SSW	.8	1.8	0
SW	.8	2.0	3
WSW	1.1	2.4	3
W	1.4	2.5	28
WNW	1.2	2.3	38
NW	.7	2.0	4
NNW	1.1	2.4	15
N	1.2	2.0	0

LOCATION 65

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.2	2
NE	1.1	2.2	10
ENE	.8	1.8	1
E	1.0	2.0	1
ESE	1.0	2.2	0
SE	.6	1.4	0
SSE	1.0	1.8	0
S	1.2	2.0	1
SSW	.8	1.7	0
SW	.9	1.7	2
WSW	.9	1.7	0
W	.9	2.1	4
WNW	1.3	2.3	71
NW	.7	1.8	4
NNW	.7	1.8	3
N	.9	2.0	1

LOCATION 66

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	1.8	1
NE	.6	1.6	1
ENE	.5	1.3	0
E	.6	1.5	0
ESE	.5	1.4	0
SE	.4	1.3	0
SSE	.4	1.3	0
S	.7	1.6	0
SSW	.5	1.4	0
SW	.6	1.4	0
WSW	.2	1.4	0
W	.9	1.8	8
WNW	.9	1.9	24
NW	.7	1.9	17
NNW	1.0	2.4	44
N	1.1	2.0	5

TABLE E-98

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.8	6
NE	.1	1.6	0
ENE	.4	1.5	0
E	.4	1.9	0
ESE	.5	1.3	0
SE	.1	1.9	0
SSE	.1	1.7	0
S	.1	1.6	0
SSW	.3	1.6	0
SW	.5	1.5	4
WSW	.3	1.5	0
W	.4	1.4	0
WNW	.6	1.7	26
NW	.6	1.9	15
NNW	.7	2.0	37
N	.8	1.9	12

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.4	1
NE	.4	1.5	3
ENE	.4	1.4	2
E	.4	1.9	1
ESE	.1	1.9	0
SE	.1	2.0	0
SSE	.2	1.4	0
S	.1	1.5	0
SSW	.1	1.5	0
SW	.3	1.6	1
WSW	.1	1.3	0
W	.1	1.3	0
WNW	.5	1.7	47
NW	.3	1.6	0
NNW	.5	1.5	31
N	.5	1.6	4

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.4	0
NE	.5	1.6	4
ENE	.1	1.6	0
E	.4	1.5	1
ESE	.2	1.3	0
SE	.1	1.7	0
SSE	.3	1.4	0
S	.1	1.5	0
SSW	.1	1.6	0
SW	.3	1.3	0
WSW	.3	1.4	0
W	.1	1.4	0
WNW	.3	1.4	1
NW	.1	1.6	0
NNW	.4	1.5	9
N	.4	1.6	0

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.8	5
NE	.2	1.4	0
ENE	.6	1.5	2
E	.5	1.4	0
ESE	.4	1.2	0
SE	.4	1.2	0
SSE	.3	1.2	0
S	.5	1.2	0
SSW	.6	1.3	0
SW	.6	1.3	6
WSW	.4	1.3	0
W	.5	1.4	1
WNW	.7	1.5	48
NW	.6	1.7	11
NNW	.7	1.8	15
N	.9	1.9	14

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.3	1.3	0
NE	.1	1.2	0
ENE	.6	1.3	13
E	.3	1.2	0
ESE	.6	1.3	15
SE	.4	1.2	0
SSE	.1	1.1	0
S	.5	1.2	2
SSW	.4	1.2	0
SW	.4	1.2	9
WSW	.3	1.2	0
W	.1	1.2	0
WNW	.5	1.4	50
NW	.1	1.3	0
NNW	.1	1.3	0
N	.1	1.3	0

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.2	0
NE	.1	1.3	0
ENE	.3	1.3	0
E	.4	1.2	0
ESE	.4	1.1	0
SE	.4	1.2	0
SSE	.1	1.1	0
S	.4	1.2	1
SSW	.4	1.2	0
SW	.3	1.2	1
WSW	.1	1.1	0
W	.3	1.2	0
WNW	.1	1.2	0
NW	.1	1.2	0
NNW	.1	1.2	0
N	.1	1.2	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	2.5	5
NE	.9	2.2	1
ENE	.5	1.6	0
E	.7	1.5	0
ESE	.4	1.4	0
SE	.2	1.3	0
SSE	.4	1.3	0
S	.9	1.7	0
SSW	.7	1.5	0
SW	.5	1.4	0
WSW	.5	1.5	0
W	.7	1.7	0
WNW	1.1	2.0	24
NW	.8	2.2	1
NNW	1.3	2.8	32
N	1.8	2.9	37

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.5	10
NE	.1	1.4	0
ENE	.5	1.4	5
E	.6	1.3	7
ESE	.3	1.3	0
SE	.1	1.2	0
SSE	.2	1.3	0
S	.4	1.4	0
SSW	.5	1.4	1
SW	.3	1.3	1
WSW	.4	1.4	1
W	.1	1.4	0
WNW	.3	1.4	1
NW	.2	1.4	0
NNW	.1	1.4	0
N	.6	1.5	10

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.3	0
NE	.3	1.3	0
ENE	.4	1.3	2
E	.1	1.3	0
ESE	.1	1.3	0
SE	.1	1.2	0
SSE	.1	1.3	0
S	.5	1.4	1
SSW	.2	1.4	0
SW	.3	1.3	0
WSW	.5	1.3	4
W	.1	1.4	0
WNW	.1	1.6	0
NW	.1	1.5	0
NNW	.1	1.5	0
N	.1	1.4	0

TABLE E-99

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.8	4
NE	.1	1.6	0
ENE	.4	1.5	0
E	.4	1.9	0
ESE	.5	1.3	0
SE	.1	1.9	0
SSE	.1	1.7	0
S	.1	1.6	0
SSW	.3	1.6	0
SW	.5	1.5	5
WSW	.3	1.5	0
W	.4	1.4	3
WNW	.6	1.7	0
NW	.6	1.9	27
NNW	.7	2.0	51
N	.8	1.9	9

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.4	0
NE	.4	1.5	0
ENE	.4	1.4	0
E	.4	1.9	4
ESE	.1	1.9	4
SE	.1	2.0	0
SSE	.2	1.4	0
S	.1	1.5	0
SSW	.1	1.5	0
SW	.3	1.6	13
WSW	.1	1.3	0
W	.1	1.3	0
WNW	.5	1.7	81
NW	.3	1.6	0
NNW	.5	1.5	0
N	.5	1.6	0

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.4	0
NE	.5	1.6	0
ENE	.1	1.6	0
E	.4	1.5	0
ESE	.2	1.3	0
SE	.1	1.7	18
SSE	.3	1.4	0
S	.1	1.5	0
SSW	.1	1.6	0
SW	.3	1.3	2
WSW	.3	1.4	0
W	.1	1.4	40
WNW	.3	1.4	0
NW	.1	1.6	7
NNW	.4	1.5	35
N	.4	1.6	0

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.8	3
NE	.2	1.4	0
ENE	.6	1.5	2
E	.5	1.4	0
ESE	.4	1.2	0
SE	.4	1.2	0
SSE	.3	1.2	0
S	.5	1.2	0
SSW	.6	1.3	0
SW	.6	1.3	1
WSW	.4	1.3	0
W	.5	1.4	1
WNW	.7	1.5	21
NW	.6	1.7	31
NNW	.7	1.8	30
N	.9	1.9	11

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.3	1.3	0
NE	.1	1.2	0
ENE	.6	1.3	12
E	.3	1.2	1
ESE	.6	1.3	5
SE	.4	1.2	0
SSE	.1	1.1	0
S	.5	1.2	3
SSW	.4	1.2	0
SW	.4	1.2	4
WSW	.3	1.2	2
W	.1	1.2	1
WNW	.5	1.4	65
NW	.1	1.3	0
NNW	.1	1.3	3
N	.1	1.3	4

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.2	0
NE	.1	1.3	36
ENE	.3	1.3	13
E	.4	1.2	6
ESE	.4	1.1	0
SE	.4	1.2	2
SSE	.1	1.1	0
S	.4	1.2	10
SSW	.4	1.2	6
SW	.3	1.2	0
WSW	.1	1.1	0
W	.3	1.2	24
WNW	.1	1.2	0
NW	.1	1.2	0
NNW	.1	1.2	0
N	.1	1.2	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	2.5	4
NE	.9	2.2	3
ENE	.5	1.6	0
E	.7	1.5	0
ESE	.4	1.4	0
SE	.2	1.3	0
SSE	.4	1.3	0
S	.9	1.7	0
SSW	.7	1.5	0
SW	.5	1.4	0
WSW	.5	1.5	0
W	.7	1.7	0
WNW	1.1	2.0	9
NW	.8	2.2	2
NNW	1.3	2.8	60
N	1.8	2.9	18

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.5	9
NE	.1	1.4	0
ENE	.5	1.4	0
E	.6	1.3	2
ESE	.3	1.3	0
SE	.1	1.2	0
SSE	.2	1.3	0
S	.4	1.4	0
SSW	.5	1.4	0
SW	.3	1.3	2
WSW	.4	1.4	4
W	.1	1.4	0
WNW	.3	1.4	44
NW	.2	1.4	10
NNW	.1	1.4	14
N	.6	1.5	14

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.3	0
NE	.3	1.3	0
ENE	.4	1.3	2
E	.1	1.3	0
ESE	.1	1.3	0
SE	.1	1.2	0
SSE	.1	1.3	1
S	.5	1.4	19
SSW	.2	1.4	4
SW	.3	1.3	18
WSW	.5	1.3	4
W	.1	1.4	111
WNW	.1	1.6	228
NW	.1	1.3	942
NNW	.1	1.5	54
N	.1	1.4	3

TABLE E-100

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 70

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.7	2
NE	.5	1.7	0
ENE	.1	1.5	0
E	.1	2.3	0
ESE	.3	1.3	0
SE	.1	1.9	0
SSE	.3	1.3	0
S	.3	1.6	0
SSW	.4	1.5	0
SW	.5	1.4	1
WSW	.3	1.3	0
W	.1	2.4	0
WNW	.5	1.4	4
NW	.6	1.9	17
NNW	.9	1.9	68
N	.8	1.9	7

LOCATION 70

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.5	2
NE	.1	1.3	0
ENE	.5	1.3	8
E	.5	1.3	4
ESE	.6	1.3	9
SE	.4	1.2	0
SSE	.2	1.1	0
S	.4	1.2	0
SSW	.5	1.2	2
SW	.5	1.3	15
WSW	.2	1.2	0
W	.3	1.3	0
WNW	.4	1.3	21
NW	.1	1.5	0
NNW	.5	1.4	22
N	.5	1.5	5

LOCATION 70

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.7	4
NE	.6	1.5	3
ENE	.5	1.4	2
E	.4	1.3	0
ESE	.4	1.4	0
SE	.1	1.3	0
SSE	.1	1.3	0
S	.4	1.4	0
SSW	.2	1.3	0
SW	.1	1.3	0
WSW	.5	1.4	0
W	.1	1.4	0
WNW	.6	1.4	26
NW	.1	1.5	0
NNW	.7	1.7	32
N	1.0	2.0	34

LOCATION 71

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	1.4	0
NE	.4	1.4	2
ENE	.4	1.7	1
E	.5	1.6	2
ESE	.3	1.4	0
SE	.1	1.7	0
SSE	.1	1.4	0
S	.1	1.3	0
SSW	.1	1.5	0
SW	.4	1.4	2
WSW	.1	1.3	0
W	.1	1.3	0
WNW	.2	1.5	0
NW	.1	1.7	0
NNW	.4	1.5	12
N	.3	1.4	0

LOCATION 71

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.3	0
NE	.1	1.2	0
ENE	.3	1.3	0
E	.4	1.2	1
ESE	.4	1.2	0
SE	.3	1.1	0
SSE	.2	1.1	0
S	.4	1.1	1
SSW	.2	1.2	0
SW	.1	1.1	0
WSW	.4	1.2	2
W	.1	1.2	0
WNW	.1	1.3	0
NW	.1	1.2	0
NNW	.1	1.2	0
N	.3	1.2	0

LOCATION 71

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.3	0
NE	.4	1.4	2
ENE	.4	1.3	2
E	.3	1.3	0
ESE	.1	1.4	0
SE	.3	1.2	0
SSE	.1	1.4	0
S	.4	1.3	0
SSW	.3	1.3	0
SW	.1	1.3	0
WSW	.4	1.3	0
W	.1	1.3	0
WNW	.2	1.3	0
NW	.1	1.3	0
NNW	.5	1.4	21
N	.4	1.4	1

LOCATION 72

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.6	0
NE	.8	2.2	0
ENE	.6	2.0	0
E	.8	2.1	0
ESE	1.2	3.0	1
SE	1.0	2.6	0
SSE	.5	2.2	0
S	.6	1.8	0
SSW	.5	1.7	0
SW	1.2	2.4	18
WSW	1.4	2.8	11
W	1.1	2.5	7
WNW	1.3	2.6	48
NW	1.1	2.3	10
NNW	.9	2.0	1
N	1.2	2.7	2

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-101

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 70

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.7	0
NE	.5	1.7	0
ENE	.1	1.5	0
E	.1	2.3	0
ESE	.3	1.3	0
SE	.1	1.9	0
SSE	.3	1.3	0
S	.3	1.6	0
SSW	.4	1.5	0
SW	.5	1.4	0
WSW	.3	1.3	0
W	.1	2.4	70
WNW	.5	1.4	0
NW	.6	1.9	5
NNW	.9	1.9	22
N	.8	1.9	7

LOCATION 70

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.5	2
NE	.1	1.3	0
ENE	.5	1.3	1
E	.5	1.3	0
ESE	.6	1.3	0
SE	.4	1.2	0
SSE	.2	1.1	0
S	.4	1.2	0
SSW	.5	1.2	0
SW	.5	1.3	1
WSW	.2	1.2	0
W	.3	1.3	1
WNW	.4	1.3	19
NW	.1	1.5	26
NNW	.5	1.4	44
N	.5	1.5	5

LOCATION 70

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.7	0
NE	.6	1.5	0
ENE	.5	1.4	0
E	.4	1.3	0
ESE	.4	1.4	0
SE	.1	1.3	38
SSE	.1	1.3	0
S	.4	1.4	0
SSW	.2	1.3	0
SW	.1	1.3	47
WSW	.5	1.4	0
W	.1	1.4	0
WNW	.6	1.4	0
NW	.1	1.5	0
NNW	.7	1.7	9
N	1.0	2.0	6

LOCATION 71

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	1.4	0
NE	.4	1.4	0
ENE	.4	1.7	0
E	.5	1.6	0
ESE	.3	1.4	0
SE	.1	1.7	9
SSE	.1	1.4	0
S	.1	1.3	0
SSW	.1	1.5	0
SW	.4	1.4	0
WSW	.1	1.3	6
W	.1	1.3	0
WNW	.2	1.5	0
NW	.1	1.7	56
NNW	.4	1.5	30
N	.3	1.4	0

LOCATION 71

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.3	0
NE	.1	1.2	0
ENE	.3	1.3	15
E	.4	1.2	1
ESE	.4	1.2	0
SE	.3	1.1	1
SSE	.2	1.1	0
S	.4	1.1	10
SSW	.2	1.2	3
SW	.1	1.1	0
WSW	.4	1.2	2
W	.1	1.2	20
WNW	.1	1.3	49
NW	.1	1.2	0
NNW	.1	1.2	0
N	.3	1.2	0

LOCATION 71

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.3	47
NE	.4	1.4	0
ENE	.4	1.3	0
E	.3	1.3	0
ESE	.1	1.4	0
SE	.3	1.2	0
SSE	.1	1.4	3
S	.4	1.3	0
SSW	.3	1.3	0
SW	.1	1.3	0
WSW	.4	1.3	1
W	.1	1.3	0
WNW	.2	1.3	0
NW	.1	1.3	0
NNW	.5	1.4	40
N	.4	1.4	8

LOCATION 72

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.6	1
NE	.8	2.2	1
ENE	.6	2.0	0
E	.8	2.1	0
ESE	1.2	3.0	6
SE	1.0	2.6	0
SSE	.5	2.2	0
S	.6	1.8	0
SSW	.5	1.7	0
SW	1.2	2.4	14
WSW	1.4	2.8	8
W	1.1	2.5	9
WNW	1.3	2.6	46
NW	1.1	2.3	11
NNW	.9	2.0	1
N	1.2	2.7	3

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-102

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 73

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.4	0
NE	.8	2.2	0
ENE	.8	2.2	0
E	1.0	2.7	1
ESE	2.0	3.8	75
SE	1.5	3.2	1
SSE	1.1	2.8	0
S	1.2	3.1	3
SSW	.9	2.4	0
SW	.4	1.6	0
WSW	.5	1.7	0
W	.8	1.8	0
WNW	.5	1.7	0
NW	.8	1.7	1
NNW	1.0	2.2	6
N	1.5	2.9	14

LOCATION 74

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.6	0
NE	1.8	3.4	33
ENE	1.3	2.8	8
E	.7	2.7	0
ESE	1.7	3.8	25
SE	1.6	3.7	2
SSE	.9	2.9	0
S	1.1	3.1	0
SSW	1.0	2.6	0
SW	.5	1.6	0
WSW	.5	1.8	0
W	.7	2.1	0
WNW	1.0	2.1	7
NW	1.2	2.2	25
NNW	.7	2.1	0
N	.8	2.1	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.1	0
NE	1.3	2.5	0
ENE	1.4	2.7	1
E	1.5	2.7	0
ESE	1.8	3.2	3
SE	1.5	3.1	0
SSE	1.1	2.3	0
S	1.0	2.3	0
SSW	.8	2.2	0
SW	1.6	3.0	8
WSW	1.9	3.3	8
W	1.8	3.1	19
WNW	1.7	3.3	35
NW	1.5	3.0	14
NNW	1.6	2.9	9
N	1.0	2.4	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-103

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 73

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.4	0
NE	.8	2.2	1
ENE	.8	2.2	2
E	1.0	2.7	3
ESE	2.0	3.8	66
SE	1.5	3.2	2
SSE	1.1	2.8	0
S	1.2	3.1	8
SSW	.9	2.4	0
SW	.4	1.6	0
WSW	.5	1.7	0
W	.8	1.8	0
WNW	.5	1.7	0
NW	.8	1.7	0
NNW	1.0	2.2	5
N	1.5	2.9	11

LOCATION 74

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.6	0
NE	1.8	3.4	27
ENE	1.3	2.8	10
E	.7	2.7	0
ESE	1.7	3.8	36
SE	1.6	3.7	3
SSE	.9	2.9	0
S	1.1	3.1	5
SSW	1.0	2.6	0
SW	.5	1.6	0
WSW	.5	1.8	0
W	.7	2.1	0
WNW	1.0	2.1	6
NW	1.2	2.2	12
NNW	.7	2.1	0
N	.8	2.1	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.1	0
NE	1.3	2.5	0
ENE	1.4	2.7	1
E	1.5	2.7	0
ESE	1.8	3.2	2
SE	1.5	3.1	0
SSE	1.1	2.3	0
S	1.0	2.3	0
SSW	.8	2.2	0
SW	1.6	3.0	11
WSW	1.9	3.3	6
W	1.8	3.1	14
WNW	1.7	3.3	37
NW	1.5	3.0	20
NNW	1.6	2.9	8
N	1.0	2.4	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-104

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 76

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	1.8	0
NE	.6	1.7	1
ENE	.7	2.1	4
E	.9	2.5	5
ESE	1.3	3.1	72
SE	1.1	3.1	4
SSE	.7	2.6	0
S	.5	2.0	0
SSW	.6	2.1	0
SW	.4	1.6	0
WSW	.6	1.5	0
W	.7	1.9	11
WNW	.5	1.5	1
NW	.5	1.7	1
NNW	.5	1.8	0
N	.4	1.8	0

LOCATION 77

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.0	12
NE	.8	2.1	16
ENE	.3	1.9	0
E	.7	2.1	3
ESE	.6	2.1	1
SE	.6	2.4	0
SSE	.7	2.5	0
S	1.0	2.6	40
SSW	.5	2.3	0
SW	.5	1.7	1
WSW	.5	1.5	0
W	.5	1.6	1
WNW	.4	1.6	0
NW	.4	1.8	0
NNW	.7	1.7	24
N	.6	1.8	1

LOCATION 78

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.2	1.7	0
NE	.5	2.3	0
ENE	.6	2.4	1
E	.7	1.9	0
ESE	.9	2.7	6
SE	.8	2.9	0
SSE	1.0	2.9	1
S	1.4	3.2	80
SSW	1.1	2.7	10
SW	.4	1.5	0
WSW	.3	1.4	0
W	.4	1.6	0
WNW	.6	2.1	1
NW	.5	1.8	0
NNW	.3	1.8	0
N	.6	1.7	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.3	1.3	0
NE	.4	1.3	2
ENE	.1	1.2	0
E	.1	1.3	0
ESE	.3	1.2	0
SE	.3	1.3	0
SSE	.4	1.1	0
S	.3	1.2	0
SSW	.1	1.2	0
SW	.1	1.2	0
WSW	.4	1.2	2
W	.1	1.2	0
WNW	.1	1.3	0
NW	.5	1.3	22
NNW	.4	1.3	3
N	.5	1.3	2

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.2	1.3	0
NE	.4	1.4	2
ENE	.1	1.3	0
E	.3	1.4	0
ESE	.3	1.4	0
SE	.3	1.3	0
SSE	.4	1.3	0
S	.1	1.4	0
SSW	.1	1.2	0
SW	.3	1.3	1
WSW	.1	1.2	0
W	.1	1.3	0
WNW	.1	1.2	0
NW	.2	1.3	0
NNW	.1	1.3	0
N	.5	1.4	2

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-105

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 76

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	1.8	0
NE	.6	1.7	1
ENE	.7	2.1	6
E	.9	2.5	9
ESE	1.3	3.1	70
SE	1.1	3.1	6
SSE	.7	2.6	1
S	.5	2.0	1
SSW	.6	2.1	1
SW	.4	1.6	0
WSW	.6	1.5	0
W	.7	1.9	4
WNW	.5	1.5	0
NW	.5	1.7	0
NNW	.5	1.8	1
N	.4	1.8	0

LOCATION 77

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.0	3
NE	.8	2.1	16
ENE	.3	1.9	1
E	.7	2.1	3
ESE	.6	2.1	6
SE	.6	2.4	1
SSE	.7	2.5	2
S	1.0	2.6	54
SSW	.5	2.3	4
SW	.5	1.7	0
WSW	.5	1.5	0
W	.5	1.6	1
WNW	.4	1.6	3
NW	.4	1.8	1
NNW	.7	1.7	5
N	.6	1.8	1

LOCATION 78

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.2	1.7	0
NE	.5	2.3	2
ENE	.6	2.4	2
E	.7	1.9	0
ESE	.9	2.7	14
SE	.8	2.9	1
SSE	1.0	2.9	2
S	1.4	3.2	63
SSW	1.1	2.7	10
SW	.4	1.5	0
WSW	.3	1.4	0
W	.4	1.6	0
WNW	.6	2.1	6
NW	.5	1.8	0
NNW	.3	1.8	0
N	.6	1.7	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.3	1.3	2
NE	.4	1.3	10
ENE	.1	1.2	0
E	.1	1.3	0
ESE	.3	1.2	2
SE	.3	1.3	0
SSE	.4	1.1	0
S	.3	1.2	0
SSW	.1	1.2	0
SW	.1	1.2	34
WSW	.4	1.2	17
W	.1	1.2	18
WNW	.1	1.3	0
NW	.5	1.3	8
NNW	.4	1.3	1
N	.5	1.3	9

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.2	1.3	0
NE	.4	1.4	13
ENE	.1	1.3	0
E	.3	1.4	0
ESE	.3	1.4	7
SE	.3	1.3	0
SSE	.4	1.3	1
S	.1	1.4	0
SSW	.1	1.2	0
SW	.3	1.3	54
WSW	.1	1.2	0
W	.1	1.3	15
WNW	.1	1.2	8
NW	.2	1.3	0
NNW	.1	1.3	0
N	.5	1.4	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-106

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.1	3.3	10
NE	1.7	3.0	11
ENE	1.5	3.0	5
E	.9	2.4	0
ESE	1.6	3.3	3
SE	1.7	3.4	1
SSE	1.6	3.2	0
S	1.6	3.2	3
SSW	1.3	2.9	0
SW	.7	1.9	0
WSW	.5	1.6	0
W	.5	1.6	0
WNW	1.0	2.0	0
NW	1.1	2.3	3
NNW	1.7	2.6	37
N	2.2	3.3	25

1995 INTERIM BUILD
PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

2000 FULL BUILD
PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-107
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.1	3.3	8
NE	1.7	3.0	13
ENE	1.5	3.0	9
E	.9	2.4	0
ESE	1.6	3.3	8
SE	1.7	3.4	1
SSE	1.6	3.2	1
S	1.6	3.2	10
SSW	1.3	2.9	2
SW	.7	1.9	0
WSW	.5	1.6	0
W	.5	1.6	0
WNW	1.0	2.0	1
NW	1.1	2.3	6
NNW	1.7	2.6	23
N	2.2	3.3	18

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-108
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.8	0	0
NE	.9	2.0	0	0
ENE	.9	2.1	0	0
E	1.4	2.6	0	0
ESE	1.8	2.8	1	1
SE	1.5	2.6	0	0
SSE	1.0	2.5	0	0
S	.8	2.4	0	0
SSW	.8	2.2	0	0
SW	1.7	3.5	6	7
WSW	3.0	4.6	71	80
W	1.8	3.6	14	7
WNW	1.4	2.8	2	1
NW	1.6	2.8	6	5
NNW	.8	2.1	0	0
N	.9	2.0	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	3.0	2	1
NE	1.5	2.9	31	17
ENE	1.0	2.4	2	2
E	.8	2.0	0	0
ESE	1.1	2.4	1	1
SE	.7	2.2	0	0
SSE	.4	2.0	0	0
S	.7	2.1	0	0
SSW	.8	2.8	0	0
SW	1.2	3.3	9	12
WSW	1.8	3.3	54	67
W	.9	2.5	1	0
WNW	.5	1.9	0	0
NW	.7	2.4	0	0
NNW	.4	1.9	0	0
N	.7	2.4	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.7	0	0
NE	.5	1.9	0	0
ENE	.6	1.8	0	0
E	.4	1.7	0	0
ESE	.9	2.1	0	0
SE	.8	2.0	0	0
SSE	.5	1.8	0	0
S	.7	2.3	0	0
SSW	.5	2.2	0	0
SW	1.1	2.7	0	1
WSW	2.1	3.4	40	50
W	1.5	2.8	14	10
WNW	1.4	2.9	16	12
NW	1.5	2.7	31	26
NNW	1.1	2.3	0	1
N	1.1	2.8	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.0	0	0
NE	1.3	2.8	1	0
ENE	1.5	2.9	2	1
E	1.7	3.2	2	1
ESE	2.2	3.3	13	8
SE	1.7	2.7	0	0
SSE	1.3	2.6	0	0
S	1.2	2.9	0	0
SSW	.8	2.2	0	0
SW	1.5	3.2	2	3
WSW	2.7	4.4	57	68
W	1.6	3.3	8	5
WNW	1.4	2.8	3	2
NW	1.6	2.9	12	11
NNW	.6	1.8	0	0
N	.6	2.0	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.4	0	0
NE	1.5	2.9	31	19
ENE	1.3	2.9	11	9
E	.6	2.1	0	0
ESE	1.1	2.3	1	1
SE	.8	2.0	0	0
SSE	.8	1.8	0	0
S	.6	1.9	0	0
SSW	.5	2.2	0	0
SW	1.2	3.1	11	15
WSW	1.7	3.6	37	47
W	.8	2.5	0	0
WNW	1.0	2.8	5	4
NW	.9	2.9	3	5
NNW	.8	2.1	0	0
N	.6	2.5	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.7	0	0
NE	.5	2.2	0	0
ENE	.6	1.8	0	0
E	.4	1.7	0	0
ESE	.9	2.3	0	0
SE	.9	2.0	0	0
SSE	.8	1.9	0	0
S	.8	2.1	0	0
SSW	.8	2.3	0	0
SW	.9	2.3	0	0
WSW	2.3	3.8	41	53
W	1.6	3.1	12	9
WNW	1.4	2.9	13	10
NW	1.6	3.1	34	29
NNW	.9	2.4	0	0
N	.7	2.3	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.8	0	0
NE	1.1	2.5	0	0
ENE	1.4	2.7	0	1
E	2.7	3.5	8	4
ESE	2.6	3.5	26	18
SE	1.9	3.1	0	0
SSE	1.3	2.8	0	0
S	1.2	2.7	0	0
SSW	.9	2.4	0	0
SW	1.8	3.6	7	11
WSW	2.8	4.5	47	59
W	1.8	3.3	11	7
WNW	1.4	2.7	1	1
NW	1.2	2.2	0	0
NNW	.6	1.9	0	0
N	.9	1.9	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.5	0	0
NE	1.6	3.0	38	23
ENE	1.3	2.6	10	8
E	.6	2.0	0	0
ESE	1.0	2.4	0	0
SE	1.1	2.1	0	0
SSE	.7	1.9	0	0
S	.5	1.8	0	0
SSW	.6	2.1	0	0
SW	1.1	2.9	4	7
WSW	1.7	3.9	38	48
W	1.0	3.2	2	1
WNW	.9	2.9	3	3
NW	.9	2.8	2	4
NNW	1.0	3.0	3	6
N	.9	2.7	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.6	0	0
NE	.9	2.1	0	0
ENE	.7	1.8	0	0
E	.7	1.7	0	0
ESE	.8	1.8	0	0
SE	.9	1.8	0	0
SSE	.8	2.1	0	0
S	1.1	2.5	0	0
SSW	1.3	2.8	0	0
SW	1.1	2.8	0	0
WSW	2.5	4.1	32	47
W	2.0	3.4	32	24
WNW	1.7	3.0	21	16
NW	1.6	3.0	9	11
NNW	1.4	3.5	1	2
N	1.5	3.2	0	0

TABLE E-109

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.8	0	0
NE	.9	2.0	0	0
ENE	.9	2.1	0	0
E	1.4	2.6	0	0
ESE	1.8	2.8	0	0
SE	1.5	2.6	0	0
SSE	1.0	2.5	0	0
S	.8	2.4	0	0
SSW	.8	2.2	0	0
SW	1.7	3.5	17	18
WSW	3.0	4.6	50	58
W	1.8	3.6	22	13
WNW	1.4	2.8	4	3
NW	1.6	2.8	7	7
NNW	.8	2.1	0	0
N	.9	2.0	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	3.0	5	3
NE	1.5	2.9	18	11
ENE	1.0	2.4	3	3
E	.8	2.0	0	0
ESE	1.1	2.4	0	0
SE	.7	2.2	0	0
SSE	.4	2.0	0	0
S	.7	2.1	0	0
SSW	.8	2.8	0	0
SW	1.2	3.3	32	34
WSW	1.8	3.3	34	40
W	.9	2.5	1	3
WNW	.5	1.9	0	0
NW	.7	2.4	1	2
NNW	.4	1.9	0	0
N	.7	2.4	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.7	0	0
NE	.5	1.9	0	0
ENE	.6	1.8	0	0
E	.4	1.7	0	0
ESE	.9	2.1	0	0
SE	.8	2.0	0	0
SSE	.5	1.8	0	0
S	.7	2.3	0	0
SSW	.5	2.2	0	0
SW	1.1	2.7	4	7
WSW	2.1	3.4	27	34
W	1.5	2.8	17	13
WNW	1.4	2.9	27	21
NW	1.5	2.7	25	23
NNW	1.1	2.3	0	2
N	1.1	2.8	0	1

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.0	0	0
NE	1.3	2.8	2	1
ENE	1.5	2.9	2	2
E	1.7	3.2	2	1
ESE	2.2	3.3	4	3
SE	1.7	2.7	0	0
SSE	1.3	2.6	0	0
S	1.2	2.9	0	0
SSW	.8	2.2	0	0
SW	1.5	3.2	8	11
WSW	2.7	4.4	43	52
W	1.6	3.3	18	12
WNW	1.4	2.8	6	4
NW	1.6	2.9	15	14
NNW	.6	1.8	0	0
N	.6	2.0	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.4	0	0
NE	1.5	2.9	18	11
ENE	1.3	2.9	10	8
E	.6	2.1	0	0
ESE	1.1	2.3	0	0
SE	.8	2.0	0	0
SSE	.8	1.8	0	0
S	.6	1.9	0	0
SSW	.5	2.2	0	0
SW	1.2	3.1	23	27
WSW	1.7	3.6	23	29
W	.8	2.5	1	1
WNW	1.0	2.8	13	11
NW	.9	2.9	11	12
NNW	.8	2.1	0	1
N	.6	2.6	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.7	0	0
NE	.5	2.2	0	0
ENE	.6	1.8	0	0
E	.4	1.7	0	0
ESE	.9	2.3	0	0
SE	.9	2.0	0	0
SSE	.8	1.9	0	0
S	.8	2.1	0	0
SSW	.8	2.3	0	0
SW	.9	2.3	0	1
WSW	2.3	3.8	27	36
W	1.6	3.1	20	16
WNW	1.4	2.9	15	13
NW	1.6	3.1	37	33
NNW	.9	2.4	0	1
N	.7	2.3	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.8	0	0
NE	1.1	2.5	0	0
ENE	1.4	2.7	1	1
E	2.2	3.5	7	3
ESE	2.6	3.5	10	7
SE	1.9	3.1	0	0
SSE	1.3	2.8	0	0
S	1.2	2.7	0	0
SSW	.9	2.4	0	0
SW	1.8	3.6	18	21
WSW	2.8	4.5	42	52
W	1.8	3.3	18	12
WNW	1.4	2.7	3	2
NW	1.2	2.2	0	1
NNW	.6	1.9	0	0
N	.9	1.9	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.5	0	0
NE	1.6	3.0	22	13
ENE	1.3	2.6	5	4
E	.6	2.0	0	0
ESE	1.0	2.4	0	0
SE	1.1	2.1	0	0
SSE	.7	1.9	0	0
S	.5	1.8	0	0
SSW	.6	2.1	0	0
SW	1.1	2.9	13	17
WSW	1.7	3.9	26	32
W	1.0	3.2	7	5
WNW	.9	2.9	12	9
NW	.9	2.8	5	8
NNW	1.0	3.0	7	10
N	.9	2.7	0	1

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.6	0	0
NE	.9	2.1	0	0
ENE	.7	1.8	0	0
E	.7	1.7	0	0
ESE	.8	1.8	0	0
SE	.9	1.8	0	0
SSE	.8	2.1	0	0
S	1.1	2.5	0	0
SSW	1.3	2.8	0	0
SW	1.1	2.8	1	3
WSW	2.5	4.1	30	36
W	2.0	3.4	30	24
WNW	1.7	3.0	18	13
NW	1.6	3.0	15	15
NNW	1.4	3.5	6	9
N	1.5	3.2	0	1

TABLE E-110

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.2	0	0
NE	.8	1.8	7	5
ENE	.9	2.1	11	9
E	.8	1.8	3	3
ESE	.5	1.7	0	0
SE	.1	1.6	0	0
SSE	.5	2.0	0	0
S	.8	2.3	3	3
SSW	.9	2.6	1	2
SW	1.0	2.4	69	70
WSW	.5	1.7	0	0
W	.6	2.4	1	1
WNW	.4	1.7	0	0
NW	.6	1.8	5	7
NNW	.5	1.6	0	0
N	.4	1.9	0	0

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.5	0	0
NE	.6	1.9	0	0
ENE	.5	1.8	0	0
E	.5	1.6	0	0
ESE	.5	1.7	0	0
SE	.6	1.7	0	0
SSE	.3	1.9	0	0
S	.5	1.7	0	0
SSW	.5	2.1	0	0
SW	1.2	2.4	13	17
WSW	1.5	2.8	24	30
W	1.1	2.4	7	5
WNW	1.1	2.5	24	18
NW	1.2	2.4	31	27
NNW	.8	1.9	0	1
N	1.2	3.2	0	0

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	1.5	0	0
NE	.4	1.5	1	1
ENE	.5	2.0	4	4
E	.7	1.8	17	11
ESE	.6	2.0	5	5
SE	.7	1.9	1	2
SSE	.1	1.8	0	0
S	.4	1.8	0	0
SSW	.5	1.5	0	0
SW	.6	1.9	24	30
WSW	.2	1.4	0	0
W	.1	1.5	0	0
WNW	.5	1.4	37	31
NW	.4	1.6	2	4
NNW	.5	1.7	9	13
N	.1	1.5	0	0

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.4	0	0
NE	.9	2.3	9	7
ENE	1.1	2.4	21	16
E	.4	1.9	0	0
ESE	.1	1.7	0	0
SE	.1	1.8	0	0
SSE	.8	1.9	0	0
S	.5	2.2	0	0
SSW	.9	2.6	0	1
SW	1.0	2.4	35	42
WSW	.7	1.6	0	0
W	.6	1.5	0	0
WNW	.7	1.7	2	3
NW	.9	1.8	32	32
NNW	.4	1.9	0	0
N	.7	2.3	0	0

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.5	0	0
NE	.8	2.2	0	0
ENE	.9	2.0	0	0
E	.5	1.7	0	0
ESE	.1	1.7	0	0
SE	.1	1.5	0	0
SSE	.6	1.5	0	0
S	.1	1.6	0	0
SSW	.7	2.0	0	0
SW	1.0	2.2	0	1
WSW	1.8	3.3	20	22
W	1.3	3.2	6	6
WNW	1.4	2.8	29	26
NW	1.5	3.1	45	43
NNW	.8	2.4	0	0
N	.9	2.5	0	0

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.5	0	0
NE	.6	1.7	4	4
ENE	.7	1.6	9	8
E	.7	1.7	3	2
ESE	.1	1.9	0	0
SE	.3	1.7	0	0
SSE	.7	1.9	0	0
S	.1	1.7	0	0
SSW	.5	1.5	0	0
SW	.6	1.5	2	6
WSW	.6	1.3	1	1
W	.5	1.4	0	0
WNW	.7	1.6	30	29
NW	.7	1.6	51	48
NNW	.4	1.4	0	0
N	.7	1.5	0	0

2000 FULL BUILD
PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.7	0	0
NE	1.4	2.7	16	12
ENE	.9	2.1	0	0
E	.7	1.8	0	0
ESE	.5	1.8	0	0
SE	.3	1.6	0	0
SSE	.3	1.8	0	0
S	1.0	2.4	0	0
SSW	1.3	2.9	1	2
SW	1.1	2.3	2	5
WSW	.9	2.3	0	0
W	1.1	2.3	4	5
WNW	1.0	2.2	5	6
NW	1.0	2.2	3	4
NNW	1.6	3.6	66	61
N	1.2	2.7	0	1

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.4	0	0
NE	1.4	2.7	3	2
ENE	.9	2.2	0	0
E	.6	1.8	0	0
ESE	.8	1.9	0	0
SE	.7	1.9	0	0
SSE	.6	1.8	0	0
S	1.0	2.6	0	0
SSW	1.6	2.9	0	1
SW	1.3	2.6	1	3
WSW	2.0	3.5	23	30
W	1.8	3.5	40	37
WNW	1.5	3.0	29	24
NW	1.4	2.7	3	6
NNW	1.1	3.0	0	1
N	1.5	3.2	0	1

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.9	0	0
NE	.6	1.4	1	1
ENE	.5	1.5	0	1
E	1.0	2.2	28	19
ESE	1.1	2.2	39	33
SE	.8	1.9	0	1
SSE	.6	2.0	0	0
S	.4	1.8	0	0
SSW	.4	1.8	0	0
SW	.5	1.5	0	0
WSW	.6	1.5	0	0
W	.5	1.4	0	0
WNW	.6	1.5	2	3
NW	.2	1.5	0	0
NNW	.7	2.0	9	14
N	1.1	2.3	21	28

TABLE E-111
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.2	1	1
NE	.8	1.8	5	4
ENE	.9	2.1	5	5
E	.8	1.8	1	1
ESE	.5	1.7	0	0
SE	.1	1.6	0	0
SSE	.5	2.0	0	0
S	.8	2.3	7	7
SSW	.9	2.6	8	7
SW	1.0	2.4	62	65
WSW	.5	1.7	0	0
W	.6	2.4	6	5
WNW	.4	1.7	3	3
NW	.6	1.8	0	1
NNW	.5	1.6	0	0
N	.4	1.9	0	0

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.5	0	0
NE	.6	1.9	0	0
ENE	.5	1.8	0	0
E	.5	1.8	0	0
ESE	.5	1.7	0	0
SE	.6	1.7	0	0
SSE	.3	1.9	0	0
S	.5	1.7	0	0
SSW	.5	2.1	0	0
SW	1.2	2.4	13	17
WSW	1.5	2.8	18	21
W	1.1	2.4	11	8
WNW	1.1	2.5	26	19
NW	1.2	2.4	28	25
NNW	.8	1.9	0	2
N	1.2	3.2	4	8

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	1.5	0	0
NE	.4	1.5	0	0
ENE	.5	2.0	2	3
E	.7	1.8	5	3
ESE	.6	2.0	18	16
SE	.7	1.9	0	1
SSE	.1	1.8	0	0
S	.4	1.8	2	3
SSW	.5	1.5	0	0
SW	.6	1.8	23	31
WSW	.2	1.4	0	0
W	.1	1.5	6	5
WNW	.5	1.4	43	39
NW	.4	1.6	0	0
NNW	.5	1.7	0	0
N	.1	1.5	0	0

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.4	1	1
NE	.9	2.3	15	10
ENE	1.1	2.4	18	14
E	.4	1.9	0	0
ESE	.1	1.7	0	0
SE	.1	1.8	0	0
SSE	.8	1.9	0	0
S	.5	2.2	1	1
SSW	.9	2.6	5	5
SW	1.0	2.4	48	52
WSW	.7	1.6	0	0
W	.6	1.5	0	0
WNW	.7	1.7	1	1
NW	.9	1.8	10	13
NNW	.4	1.9	0	1
N	.7	2.3	0	1

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.5	0	0
NE	.8	2.2	0	0
ENE	.9	2.0	0	0
E	.5	1.7	0	0
ESE	.1	1.7	0	0
SE	.1	1.5	0	0
SSE	.6	1.5	0	0
S	.1	1.6	0	0
SSW	.7	2.0	0	0
SW	1.0	2.2	0	1
WSW	1.8	3.3	13	17
W	1.3	3.2	21	18
WNW	1.4	2.8	24	22
NW	1.5	3.1	43	40
NNW	.8	2.4	0	1
N	.9	2.5	0	0

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.5	1	1
NE	.6	1.7	5	4
ENE	.7	1.6	6	6
E	.7	1.7	6	3
ESE	.1	1.9	1	1
SE	.3	1.7	0	0
SSE	.7	1.9	0	1
S	.1	1.7	0	0
SSW	.5	1.5	0	0
SW	.6	1.5	8	14
WSW	.6	1.3	0	0
W	.5	1.4	1	1
WNW	.7	1.6	34	30
NW	.7	1.6	38	36
NNW	.4	1.4	1	4
N	.7	1.5	0	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.7	0	0
NE	1.4	2.7	10	8
ENE	.9	2.1	4	4
E	.7	1.9	0	0
ESE	.5	1.8	0	0
SE	.3	1.6	0	0
SSE	.3	1.8	0	0
S	1.0	2.4	0	0
SSW	1.3	2.9	1	2
SW	1.1	2.3	2	7
WSW	.9	2.3	0	0
W	1.1	2.3	3	3
WNW	1.0	2.2	3	4
NW	1.0	2.2	2	6
NNW	1.6	3.6	77	65
N	1.2	2.7	0	2

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.4	0	0
NE	1.4	2.7	4	2
ENE	.9	2.2	0	0
E	.6	1.8	0	0
ESE	.8	1.9	0	0
SE	.7	1.9	0	0
SSE	.6	1.8	0	0
S	1.0	2.6	0	0
SSW	1.6	2.9	1	1
SW	1.3	2.6	1	4
WSW	2.0	3.5	17	21
W	1.8	3.5	40	31
WNW	1.5	3.0	25	20
NW	1.2	2.7	6	11
NNW	1.1	3.0	5	6
N	1.5	3.2	0	2

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.9	0	0
NE	.6	1.4	0	0
ENE	.5	1.5	0	1
E	1.0	2.2	20	13
ESE	1.1	2.2	27	23
SE	.8	1.9	0	0
SSE	.6	2.0	0	0
S	.4	1.8	0	0
SSW	.4	1.8	0	0
SW	.5	1.5	1	3
WSW	.6	1.5	0	0
W	.5	1.4	0	0
WNW	.6	1.5	1	1
NW	.2	1.5	0	1
NNW	.7	2.0	37	37
N	1.1	2.3	13	19

TABLE E-112
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.2	4	2
NE	.7	1.8	6	4
ENE	.6	2.0	1	1
E	.6	2.1	0	0
ESE	.6	1.9	0	0
SE	.1	1.9	0	0
SSE	.5	1.8	0	0
S	.7	2.1	1	1
SSW	.8	2.2	1	2
SW	.6	1.7	3	7
WSW	.7	1.6	2	2
W	.8	1.7	49	41
WNW	.5	1.8	2	2
NW	.4	1.5	0	0
NNW	.5	1.7	0	2
N	1.2	2.3	31	34

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.3	8	6
NE	.1	1.6	0	0
ENE	.1	1.7	0	0
E	.1	1.5	0	0
ESE	.5	1.5	1	2
SE	.1	1.7	0	0
SSE	.1	1.6	0	0
S	.1	1.6	0	0
SSW	.7	1.8	12	11
SW	.1	1.4	0	0
WSW	.1	1.9	0	0
W	.6	1.7	52	46
WNW	.4	1.5	2	3
NW	.4	1.8	8	12
NNW	.5	2.0	17	22
N	.1	2.0	0	0

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.4	17	11
NE	.7	1.9	7	6
ENE	.8	2.3	18	15
E	.7	2.3	5	3
ESE	.7	2.3	2	3
SE	.5	1.7	0	0
SSE	.1	1.4	0	0
S	.1	1.6	0	0
SSW	.1	1.6	0	0
SW	.1	1.6	0	0
WSW	.1	1.5	0	0
W	.5	1.6	0	1
WNW	.5	1.6	3	4
NW	.7	1.7	27	30
NNW	.7	2.0	19	24
N	.7	2.4	1	3

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.0	0	0
NE	1.2	2.7	46	33
ENE	1.0	2.3	16	14
E	1.0	2.3	9	6
ESE	.8	2.2	0	0
SE	.4	1.7	0	0
SSE	.5	1.8	0	0
S	.6	2.0	0	0
SSW	.7	2.2	0	0
SW	.7	1.8	2	6
WSW	.8	1.6	3	4
W	.8	1.7	7	8
WNW	.7	2.0	8	10
NW	.7	2.0	2	6
NNW	.7	1.9	3	8
N	.6	2.0	0	0

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.1	0	0
NE	.8	1.9	3	2
ENE	.6	1.7	0	1
E	.6	1.9	0	0
ESE	.9	2.3	1	2
SE	.7	1.9	0	0
SSE	.6	1.7	0	0
S	.7	1.8	0	0
SSW	.7	1.8	0	0
SW	.6	1.5	0	1
WSW	.9	1.9	5	7
W	.9	2.4	14	13
WNW	.7	2.0	2	3
NW	.6	2.1	1	2
NNW	1.1	3.1	73	62
N	1.0	2.8	1	4

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.8	0	0
NE	.7	1.9	7	5
ENE	.1	1.7	0	0
E	.9	2.4	12	8
ESE	1.1	2.6	40	34
SE	.1	1.4	0	0
SSE	.5	1.5	0	0
S	.5	1.6	0	0
SSW	.5	1.4	0	0
SW	.5	1.3	0	0
WSW	.3	1.5	0	0
W	.5	1.8	0	1
WNW	.7	2.0	23	23
NW	.6	1.6	3	6
NNW	.5	2.4	0	1
N	1.1	3.1	15	22

2000 FULL-BUILD PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.0	0	0
NE	1.1	2.4	1	1
ENE	1.4	2.3	5	6
E	1.7	3.1	12	9
ESE	2.0	3.4	41	38
SE	1.4	2.8	0	0
SSE	.7	2.0	0	0
S	.7	2.4	0	0
SSW	1.1	2.3	0	0
SW	.6	2.0	0	0
WSW	.7	1.7	0	0
W	.8	1.6	0	0
WNW	.6	1.5	0	0
NW	.6	2.0	0	0
NNW	1.6	3.2	41	44
N	1.5	2.6	1	4

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.1	0	0
NE	.9	2.1	2	2
ENE	.8	1.8	0	1
E	1.0	1.9	1	1
ESE	1.6	2.9	46	43
SE	1.2	2.2	0	0
SSE	.7	1.9	0	0
S	.5	2.0	0	0
SSW	.7	1.9	0	0
SW	.3	1.9	0	0
WSW	.8	2.0	0	0
W	.8	2.1	1	1
WNW	.7	2.5	0	1
NW	.4	2.3	0	0
NNW	1.3	3.6	51	52
N	.8	2.3	0	0

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.9	0	0
NE	.4	1.8	0	0
ENE	.6	1.6	0	1
E	.5	2.0	0	0
ESE	1.0	2.4	19	16
SE	.5	1.6	0	0
SSE	.6	1.9	0	0
S	.3	1.7	0	0
SSW	.7	1.9	0	0
SW	.1	1.6	0	0
WSW	.5	1.6	0	0
W	.4	1.8	0	0
WNW	.5	1.6	0	1
NW	.8	2.3	61	52
NNW	.7	2.4	8	12
N	1.1	2.2	12	16

TABLE E-113

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.2	6	3
NE	.7	1.8	9	6
ENE	.6	2.0	5	5
E	.6	2.1	8	4
ESE	.6	1.9	2	2
SE	.1	1.9	0	0
SSE	.5	1.8	0	0
S	.7	2.1	5	5
SSW	.8	2.2	8	7
SW	.6	1.7	7	13
WSW	.7	1.6	1	2
W	.8	1.7	19	16
WNW	.5	1.8	13	12
NW	.4	1.5	0	0
NNW	.5	1.7	1	4
N	1.2	2.3	16	22

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.3	11	7
NE	.1	1.6	0	0
ENE	.1	1.7	0	0
E	.1	1.5	0	0
ESE	.5	1.5	0	0
SE	.1	1.7	0	0
SSE	.1	1.6	0	0
S	.1	1.6	18	15
SSW	.7	1.8	1	2
SW	.1	1.4	0	0
WSW	.1	1.9	36	48
W	.6	1.7	24	19
WNW	.4	1.5	9	8
NW	.4	1.8	0	0
NNW	.5	2.0	0	1
N	.1	2.0	0	2

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.4	15	10
NE	.7	1.9	11	8
ENE	.8	2.3	18	15
E	.7	2.3	11	7
ESE	.7	2.3	14	13
SE	.5	1.7	0	0
SSE	.1	1.4	0	0
S	.1	1.6	0	0
SSW	.1	1.6	0	0
SW	.1	1.6	0	0
WSW	.1	1.5	0	0
W	.5	1.6	1	1
WNW	.5	1.6	3	3
NW	.7	1.7	4	8
NNW	.7	2.0	13	18
N	.7	2.4	10	16

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.0	0	0
NE	1.2	2.7	43	31
ENE	1.0	2.3	17	15
E	1.0	2.3	11	8
ESE	.8	2.2	1	2
SE	.4	1.7	0	0
SSE	.5	1.8	0	0
S	.6	2.0	0	0
SSW	.7	2.2	0	1
SW	.7	1.8	1	4
WSW	.8	1.6	0	0
W	.8	1.7	2	2
WNW	.7	2.0	10	12
NW	.7	2.0	8	13
NNW	.7	1.9	5	10
N	.6	2.0	0	0

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.1	0	0
NE	.8	1.9	0	0
ENE	.6	1.7	0	0
E	.6	1.9	0	0
ESE	.9	2.3	1	1
SE	.7	1.9	0	0
SSE	.6	1.7	0	0
S	.7	1.8	0	0
SSW	.7	1.8	0	0
SW	.6	1.5	0	0
WSW	.9	1.9	0	1
W	.9	2.4	11	12
WNW	.7	2.0	2	3
NW	.6	2.1	1	4
NNW	1.1	3.1	82	71
N	1.0	2.8	1	6

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.8	0	0
NE	.7	1.9	5	3
ENE	.1	1.7	0	0
E	.9	2.4	12	8
ESE	1.1	2.6	34	28
SE	.1	1.4	0	0
SSE	.5	1.5	0	0
S	.5	1.6	0	0
SSW	.5	1.4	0	0
SW	.5	1.3	0	0
WSW	.3	1.5	0	0
W	.5	1.8	2	2
WNW	.7	2.0	4	4
NW	.6	1.6	1	3
NNW	.5	2.4	17	21
N	1.1	3.1	25	30

2000 FULL-BUILD PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.0	0	0
NE	1.1	2.4	2	2
ENE	1.4	2.3	4	5
E	1.7	3.1	14	11
ESE	2.0	3.4	26	26
SE	1.4	2.8	0	0
SSE	.7	2.0	0	0
S	.7	2.4	0	0
SSW	1.1	2.3	0	0
SW	.6	2.0	0	0
WSW	.7	1.7	0	0
W	.8	1.6	0	0
WNW	.6	1.5	0	0
NW	.6	2.0	0	1
NNW	1.6	3.2	53	52
N	1.5	2.6	0	3

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.1	0	0
NE	.9	2.1	1	1
ENE	.8	1.8	0	0
E	1.0	1.9	0	0
ESE	1.6	2.9	13	14
SE	1.2	2.2	0	0
SSE	.7	1.9	0	0
S	.5	2.0	0	0
SSW	.7	1.9	0	0
SW	.3	1.8	0	0
WSW	.8	2.0	0	0
W	.8	2.1	2	3
WNW	.7	2.5	11	14
NW	.4	2.2	1	3
NNW	1.3	3.0	71	64
N	.8	2.3	0	0

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.9	0	0
NE	.4	1.8	1	1
ENE	.6	1.6	0	1
E	.5	2.0	1	1
ESE	1.0	2.4	14	12
SE	.5	1.6	0	0
SSE	.6	1.9	0	0
S	.3	1.7	0	0
SSW	.7	1.9	0	0
SW	.1	1.6	0	1
WSW	.5	1.6	0	0
W	.4	1.8	0	0
WNW	.5	1.6	1	1
NW	.8	2.3	51	46
NNW	.7	2.4	30	31
N	1.1	2.2	1	5

TABLE E-114

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.6	2.0	0	0
NE	1.0	1.9	31	23
ENE	1.1	2.4	38	31
E	.8	2.0	7	5
ESE	.9	2.5	13	15
SE	.6	2.0	0	0
SSE	.4	1.8	0	0
S	.5	1.7	0	0
SSW	.4	1.9	0	0
SW	.5	2.3	0	1
WSW	.7	1.8	1	2
W	.1	1.8	0	0
WNW	.5	2.0	0	0
NW	.5	1.8	0	2
NNW	.6	2.1	1	5
N	1.0	2.5	7	15

LOCATION 11

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.4	0	0
NE	1.7	3.0	37	31
ENE	1.6	3.3	28	27
E	1.3	3.5	6	6
ESE	1.7	3.6	30	36
SE	1.0	2.9	0	0
SSE	.5	2.1	0	0
S	.7	2.3	0	0
SSW	1.0	2.3	0	0
SW	.6	1.7	0	0
WSW	.1	1.8	0	0
W	.6	1.9	0	0
WNW	.6	1.8	0	0
NW	.5	1.8	0	0
NNW	.5	1.8	0	0
N	1.1	2.6	0	1

LOCATION 12

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.3	0	0
NE	.8	2.3	1	1
ENE	.7	2.1	0	0
E	.6	2.3	0	0
ESE	.6	1.7	0	0
SE	.7	1.7	0	0
SSE	.5	1.8	0	0
S	.4	1.8	0	0
SSW	.1	1.8	0	0
SW	.4	1.8	0	0
WSW	.6	2.2	0	0
W	.7	2.0	0	1
WNW	.5	1.8	0	0
NW	.8	1.8	5	10
NNW	1.3	2.6	86	72
N	1.3	2.7	8	16

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.2	2	2
NE	.6	2.0	0	0
ENE	.5	1.6	0	0
E	.7	2.0	0	0
ESE	.1	1.9	0	0
SE	.7	2.2	0	0
SSE	.7	2.0	0	0
S	.7	1.6	0	0
SSW	.8	1.7	0	0
SW	.6	1.7	0	0
WSW	.8	2.0	0	0
W	.8	2.1	1	1
WNW	.7	2.1	1	1
NW	.8	2.5	4	8
NNW	1.4	3.2	89	76
N	1.3	3.3	3	10

LOCATION 11

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.0	1	1
NE	1.2	2.9	17	13
ENE	1.5	2.9	38	30
E	1.4	2.9	16	12
ESE	1.0	2.8	0	1
SE	1.2	2.7	0	0
SSE	.8	2.4	0	0
S	.6	2.2	0	0
SSW	.9	2.2	0	0
SW	.6	1.8	0	0
WSW	1.1	2.3	4	7
W	.9	2.1	4	4
WNW	.5	1.6	0	0
NW	.6	1.8	0	0
NNW	1.1	2.7	16	23
N	1.3	3.5	2	8

LOCATION 12

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.7	0	0
NE	.8	2.3	0	0
ENE	.9	2.3	1	1
E	.9	2.3	0	0
ESE	.8	2.1	0	0
SE	.6	1.6	0	0
SSE	.3	1.5	0	0
S	.8	2.0	0	0
SSW	1.2	2.4	2	3
SW	.7	1.9	0	0
WSW	.8	2.2	0	0
W	.9	2.7	2	2
WNW	.5	2.3	0	0
NW	.6	2.1	0	0
NNW	1.4	3.8	60	53
N	1.8	4.2	35	39

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.4	0	0
NE	1.0	2.3	0	1
ENE	.9	2.0	0	0
E	.6	1.8	0	0
ESE	.9	2.3	0	0
SE	1.5	2.6	0	1
SSE	1.1	2.2	0	0
S	.8	1.9	0	0
SSW	1.0	2.0	0	0
SW	.8	2.4	0	0
WSW	1.0	2.4	0	0
W	.9	2.7	0	0
WNW	.7	2.0	0	0
NW	1.1	2.5	5	11
NNW	1.9	3.4	95	86
N	1.2	2.2	0	1

LOCATION 11

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.5	1.7	0	0
NE	1.6	2.6	22	16
ENE	1.6	2.6	18	16
E	1.5	2.9	8	6
ESE	1.8	3.3	36	33
SE	1.4	3.0	0	0
SSE	1.0	2.5	0	0
S	.7	2.2	0	0
SSW	1.2	2.4	0	0
SW	.9	2.4	0	2
WSW	1.3	2.6	4	6
W	1.0	2.5	1	1
WNW	.3	1.5	0	0
NW	.8	1.8	0	1
NNW	1.3	2.5	12	19
N	.7	1.8	0	0

LOCATION 12

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.2	2.8	2	2
NE	.8	2.3	0	0
ENE	1.0	2.5	2	2
E	.9	2.4	0	0
ESE	.9	2.0	0	0
SE	1.0	2.3	0	0
SSE	1.1	2.4	0	0
S	1.1	2.6	2	2
SSW	1.3	2.5	3	3
SW	.9	2.3	1	4
WSW	1.2	2.9	8	10
W	1.2	2.9	33	27
WNW	1.0	2.6	20	17
NW	1.1	3.0	24	25
NNW	1.0	2.4	4	8
N	.9	2.8	0	0

TABLE E-115
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.6	2.0	0	0
NE	1.0	1.9	13	9
ENE	1.1	2.4	23	18
E	.8	2.0	8	5
ESE	.9	2.5	21	18
SE	.6	2.0	0	0
SSE	.4	1.8	0	0
S	.5	1.7	0	0
SSW	.4	1.9	0	0
SW	.5	2.3	4	9
WSW	.7	1.8	2	2
W	.1	1.8	0	0
WNW	.5	2.0	13	13
NW	.5	1.8	2	5
NNW	.6	2.1	1	4
N	1.0	2.5	11	17

LOCATION 11

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.4	0	0
NE	1.7	3.0	23	20
ENE	1.6	3.3	24	23
E	1.3	3.5	16	14
ESE	1.7	3.6	36	40
SE	1.0	2.9	0	0
SSE	.5	2.1	0	0
S	.7	2.3	0	0
SSW	1.0	2.3	0	0
SW	.6	1.7	0	0
WSW	.1	1.8	0	0
W	.6	1.9	0	0
WNW	.6	1.8	0	0
NW	.5	1.8	0	0
NNW	.5	1.8	0	0
N	1.1	2.6	0	2

LOCATION 12

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.3	0	0
NE	.8	2.3	5	4
ENE	.7	2.1	1	2
E	.6	2.3	1	1
ESE	.6	1.7	0	0
SE	.7	1.7	0	0
SSE	.5	1.8	0	0
S	.4	1.8	0	0
SSW	.1	1.8	0	0
SW	.4	1.8	0	0
WSW	.6	2.2	1	1
W	.7	2.0	7	7
WNW	.5	1.8	1	2
NW	.8	1.8	8	11
NNW	1.3	2.6	67	56
N	1.3	2.7	9	16

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.2	0	0
NE	.6	2.0	0	0
ENE	.5	1.6	0	0
E	.7	2.0	0	0
ESE	.1	1.9	0	0
SE	.7	2.2	0	0
SSE	.7	2.0	0	0
S	.7	1.6	0	0
SSW	.8	1.7	0	0
SW	.6	1.7	0	0
WSW	.8	2.0	0	0
W	.8	2.1	2	2
WNW	.7	2.1	1	2
NW	.8	2.5	11	16
NNW	1.4	3.2	80	67
N	1.3	3.3	5	11

LOCATION 11

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.0	0	0
NE	1.2	2.9	18	13
ENE	1.5	2.9	29	23
E	1.4	2.9	17	12
ESE	1.0	2.8	3	4
SE	1.2	2.7	0	1
SSE	.8	2.4	0	0
S	.6	2.2	0	0
SSW	.9	2.2	0	0
SW	.6	1.8	0	0
WSW	1.1	2.3	3	5
W	.9	2.1	6	6
WNW	.5	1.6	0	0
NW	.6	1.8	0	0
NNW	1.1	2.7	15	21
N	1.3	3.5	8	15

LOCATION 12

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.7	0	0
NE	.8	2.3	0	0
ENE	.9	2.3	1	1
E	.9	2.3	0	0
ESE	.8	2.1	0	0
SE	.6	1.6	0	0
SSE	.3	1.5	0	0
S	.8	2.0	0	0
SSW	1.2	2.4	0	0
SW	.7	1.9	0	0
WSW	.8	2.2	0	0
W	.9	2.7	6	7
WNW	.5	2.3	0	1
NW	.6	2.1	0	1
NNW	1.4	3.8	72	62
N	1.8	4.2	20	27

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.4	0	0
NE	1.0	2.3	1	1
ENE	.9	2.0	0	0
E	.6	1.8	0	0
ESE	.9	2.3	0	0
SE	1.5	2.6	0	0
SSE	1.1	2.2	0	0
S	.8	1.8	0	0
SSW	1.0	2.0	0	0
SW	.8	2.4	0	3
WSW	1.0	2.4	0	1
W	.9	2.7	5	5
WNW	.7	2.0	0	1
NW	1.1	2.5	15	21
NNW	1.9	3.4	78	68
N	1.2	2.2	0	0

LOCATION 11

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.5	1.7	0	0
NE	1.6	2.6	15	10
ENE	1.6	2.6	11	10
E	1.5	2.9	12	8
ESE	1.8	3.3	31	26
SE	1.4	3.0	0	1
SSE	1.0	2.5	0	0
S	.7	2.2	0	0
SSW	1.2	2.4	0	1
SW	.9	2.4	4	6
WSW	1.3	2.6	5	7
W	1.0	2.5	9	9
WNW	.3	1.5	0	0
NW	.8	1.8	0	1
NNW	1.3	2.5	12	17
N	.7	1.8	0	0

LOCATION 12

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.2	2.8	2	1
NE	.8	2.3	1	1
ENE	1.0	2.5	1	1
E	.9	2.4	0	0
ESE	.9	2.0	0	0
SE	1.0	2.3	0	0
SSE	1.1	2.4	0	0
S	1.1	2.6	1	1
SSW	1.3	2.5	0	0
SW	.9	2.3	1	4
WSW	1.2	2.9	4	5
W	1.2	2.9	26	22
WNW	1.0	2.8	32	28
NW	1.1	3.0	31	31
NNW	1.0	2.6	2	4
N	.8	2.1	0	2

TABLE E-116
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 13

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.3	1	0
NE	.8	2.0	1	1
ENE	.7	1.9	0	0
E	.6	1.9	0	0
ESE	.2	1.7	0	0
SE	.7	2.0	0	0
SSE	.1	1.8	0	0
S	.1	1.9	0	0
SSW	.5	1.8	0	0
SW	1.1	2.3	36	37
WSW	.1	1.7	0	0
W	.6	2.1	0	0
WNW	.6	1.7	0	0
NW	1.0	2.2	38	31
NNW	.8	2.4	6	8
N	1.4	2.8	18	21

LOCATION 13

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.5	3.7	19	13
NE	.6	2.2	0	0
ENE	.7	2.0	0	0
E	.7	1.8	0	0
ESE	.3	1.9	0	0
SE	.3	1.5	0	0
SSE	.6	1.5	0	0
S	.5	1.7	0	0
SSW	.8	2.0	0	0
SW	.9	2.2	5	11
WSW	.6	1.7	0	0
W	.9	2.2	8	8
WNW	.5	1.4	0	0
NW	.8	2.5	3	7
NNW	1.3	3.3	65	57
N	1.0	2.3	0	3

LOCATION 13

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	3.3	1	1
NE	.5	2.6	0	0
ENE	.7	2.0	0	0
E	.5	2.0	0	0
ESE	.4	1.8	0	0
SE	1.1	2.5	0	0
SSE	1.1	2.6	0	0
S	.7	2.0	0	0
SSW	1.0	2.4	0	0
SW	.9	2.1	0	2
WSW	.8	1.8	0	0
W	.8	2.3	0	0
WNW	.7	1.6	0	0
NW	1.0	1.9	6	12
NNW	1.5	2.8	81	66
N	1.7	3.0	11	18

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.1	0	1
NE	.9	1.9	5	5
ENE	.9	2.0	6	8
E	.7	1.8	0	0
ESE	.6	1.6	0	0
SE	.7	2.1	0	0
SSE	.4	2.0	0	0
S	.6	1.9	0	0
SSW	.4	1.8	0	0
SW	.7	1.8	0	2
WSW	.7	1.7	0	0
W	.6	2.4	0	0
WNW	.4	1.8	0	0
NW	.6	1.8	0	1
NNW	1.2	2.5	87	79
N	.9	2.7	0	3

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.3	2.9	6	4
NE	.8	2.5	0	0
ENE	.6	2.0	0	0
E	.1	2.2	0	0
ESE	.1	1.7	0	0
SE	1.0	2.2	0	0
SSE	.9	2.2	0	0
S	.6	1.7	0	0
SSW	.5	2.0	0	0
SW	.8	1.8	1	3
WSW	.7	2.0	0	0
W	.8	2.5	0	1
WNW	.7	2.6	0	0
NW	.8	2.4	1	3
NNW	1.3	3.2	65	55
N	1.7	3.3	27	33

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.0	2.4	2	1
NE	1.0	2.8	10	7
ENE	1.0	2.3	8	7
E	.7	2.3	0	0
ESE	1.3	2.6	26	20
SE	1.6	2.9	4	7
SSE	1.5	2.8	3	3
S	1.0	2.4	2	2
SSW	1.1	2.2	2	3
SW	.8	1.9	2	5
WSW	.9	2.0	1	1
W	.9	2.3	7	6
WNW	.8	2.3	5	4
NW	.9	2.0	12	14
NNW	.9	2.2	6	12
N	1.2	2.6	5	9

LOCATION 15

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.1	0	0
NE	.9	2.2	10	7
ENE	1.0	2.1	10	8
E	.9	2.2	4	2
ESE	1.0	2.3	4	4
SE	.9	2.4	0	0
SSE	.7	2.1	0	0
S	.8	2.2	0	1
SSW	.9	2.1	1	2
SW	.7	1.9	0	2
WSW	.7	2.0	0	0
W	.6	2.1	0	0
WNW	.9	1.9	29	25
NW	.7	1.9	2	4
NNW	.8	2.2	6	10
N	1.4	2.9	31	34

LOCATION 15

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.2	2.3	2	2
NE	1.6	3.4	39	28
ENE	1.2	2.6	9	9
E	1.4	2.8	12	9
ESE	1.3	2.9	4	6
SE	1.3	2.8	0	1
SSE	.8	2.0	0	0
S	.9	2.0	0	0
SSW	.9	2.2	0	0
SW	.7	1.7	0	0
WSW	.9	1.8	0	0
W	.7	2.1	0	0
WNW	.8	2.1	1	1
NW	.7	2.5	0	1
NNW	1.3	2.8	26	31
N	1.5	3.6	6	12

LOCATION 15

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	1.9	0	0
NE	1.2	2.7	1	1
ENE	1.6	2.7	6	7
E	2.2	3.3	23	18
ESE	2.5	3.7	64	58
SE	1.7	3.2	0	0
SSE	.8	2.4	0	0
S	.5	2.0	0	0
SSW	.9	2.2	0	0
SW	.4	1.6	0	0
WSW	.7	2.3	0	0
W	.8	2.0	0	0
WNW	1.1	2.4	0	1
NW	1.3	2.4	4	9
NNW	1.3	2.6	1	6
N	1.2	2.4	0	0

TABLE E-117

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 13

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.3	1	1
NE	.8	2.0	4	2
ENE	.7	1.9	0	1
E	.6	1.9	0	0
ESE	.2	1.7	0	0
SE	.7	2.0	0	0
SSE	.1	1.8	0	0
S	.1	1.9	0	0
SSW	.5	1.8	0	0
SW	1.1	2.3	27	30
WSW	.1	1.7	0	0
W	.6	2.1	4	3
WNW	.6	1.7	0	0
NW	1.0	2.2	24	22
NNW	.8	2.4	56	24
N	1.4	2.8	13	17

LOCATION 13

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.5	3.7	18	13
NE	.6	2.2	1	1
ENE	.7	2.0	0	0
E	.7	1.8	0	0
ESE	.3	1.9	0	0
SE	.3	1.5	0	0
SSE	.6	1.5	0	0
S	.5	1.7	0	0
SSW	.8	2.0	0	0
SW	.9	2.2	2	7
WSW	.6	1.7	0	0
W	.9	2.2	4	4
WNW	.5	1.4	0	0
NW	.8	2.5	8	13
NNW	1.3	3.3	67	61
N	1.0	2.3	0	1

LOCATION 13

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	3.3	9	6
NE	.5	2.6	3	2
ENE	.7	2.0	1	1
E	.5	2.0	0	0
ESE	.4	1.8	0	0
SE	1.1	2.5	0	0
SSE	1.1	2.6	0	0
S	.7	2.0	0	0
SSW	1.0	2.4	0	1
SW	.9	2.1	3	7
WSW	.8	1.8	0	0
W	.8	2.3	2	2
WNW	.7	1.6	0	0
NW	1.0	1.9	4	7
NNW	1.5	2.8	72	59
N	1.7	3.0	7	14

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.1	1	0
NE	.9	1.9	6	5
ENE	.9	2.0	5	5
E	.7	1.8	1	1
ESE	.6	1.6	0	0
SE	.7	2.1	0	0
SSE	.4	2.0	0	0
S	.6	1.9	0	0
SSW	.4	1.8	0	0
SW	.7	1.8	1	3
WSW	.7	1.7	0	0
W	.6	2.4	8	9
WNW	.4	1.8	2	2
NW	.6	1.8	1	3
NNW	1.2	2.5	73	62
N	.9	2.7	3	9

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.3	2.9	4	3
NE	.8	2.5	3	2
ENE	.6	2.0	0	0
E	.1	2.2	0	0
ESE	.1	1.7	0	0
SE	1.0	2.2	0	0
SSE	.9	2.2	0	0
S	.6	1.7	0	0
SSW	.5	2.0	0	0
SW	.8	1.8	0	1
WSW	.7	2.0	0	0
W	.8	2.5	4	4
WNW	.7	2.6	6	7
NW	.8	2.4	9	13
NNW	1.3	3.2	64	54
N	1.7	3.3	10	16

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.0	2.4	2	1
NE	1.0	2.8	22	15
ENE	1.0	2.3	9	7
E	.7	2.3	3	1
ESE	1.3	2.6	20	16
SE	1.6	2.8	1	2
SSE	1.5	2.8	1	1
S	1.0	2.4	3	3
SSW	1.1	2.2	1	1
SW	.8	1.9	1	3
WSW	.9	2.0	0	0
W	.9	2.3	9	7
WNW	.8	2.3	10	9
NW	.9	2.0	10	12
NNW	.8	2.2	8	12
N	1.2	2.6	2	6

LOCATION 15

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.1	0	0
NE	.9	2.2	10	7
ENE	1.0	2.1	7	6
E	.9	2.2	5	3
ESE	1.0	2.3	4	4
SE	.9	2.4	0	0
SSE	.7	2.1	0	0
S	.8	2.2	3	3
SSW	.9	2.1	0	1
SW	.7	1.9	2	5
WSW	.7	2.0	2	2
W	.6	2.1	3	2
WNW	.9	1.9	25	20
NW	.7	1.9	2	4
NNW	.8	2.2	11	14
N	1.4	2.9	25	28

LOCATION 15

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.2	2.3	1	0
NE	1.6	3.4	36	24
ENE	1.2	2.6	7	7
E	1.4	2.8	10	6
ESE	1.3	2.9	5	6
SE	1.3	2.8	0	1
SSE	.8	2.0	0	0
S	.9	2.0	0	0
SSW	.9	2.2	0	0
SW	.7	1.7	0	0
WSW	.9	1.8	0	0
W	.7	2.1	0	0
WNW	.8	2.1	1	1
NW	.7	2.5	5	9
NNW	1.3	2.8	23	27
N	1.5	3.6	12	18

LOCATION 15

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	1.9	0	0
NE	1.2	2.7	4	3
ENE	1.6	2.7	6	6
E	2.2	3.3	20	14
ESE	2.5	3.7	48	41
SE	1.7	3.2	0	1
SSE	.8	2.4	0	0
S	.5	2.0	0	0
SSW	.9	2.2	0	0
SW	.4	1.6	0	0
WSW	.7	2.3	0	0
W	.8	2.0	0	0
WNW	1.1	2.4	7	8
NW	1.3	2.4	8	13
NNW	1.3	2.6	7	13
N	1.2	2.4	0	1

TABLE E-118

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.1	0	0
NE	1.0	2.3	3	3
ENE	.8	2.0	0	0
E	.5	2.1	0	0
ESE	.8	2.1	0	0
SE	.9	2.3	0	0
SSE	.6	1.8	0	0
S	.7	2.3	0	0
SSW	.6	1.9	0	0
SW	.5	1.5	0	0
WSW	.6	1.7	0	0
W	.7	2.1	0	0
WNW	.6	1.6	0	0
NW	1.0	2.1	8	14
NNW	1.5	3.2	81	70
N	1.3	2.7	1	6

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 16

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.2	2.6	0	0
NE	1.7	3.7	17	14
ENE	2.1	3.4	35	30
E	2.0	3.5	20	18
ESE	2.0	3.4	25	27
SE	1.5	3.1	0	0
SSE	1.2	2.7	0	0
S	.9	2.5	0	0
SSW	1.1	2.9	0	0
SW	.5	1.8	0	0
WSW	1.2	2.5	0	0
W	.9	2.3	0	0
WNW	.9	2.2	0	0
NW	.9	2.5	0	1
NNW	1.3	2.9	3	9
N	1.4	3.2	0	2

LOCATION 17

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.9	0	0
NE	2.0	3.7	21	18
ENE	2.3	3.5	34	29
E	2.2	3.4	18	14
ESE	2.2	3.5	24	26
SE	1.8	3.4	0	1
SSE	1.4	3.0	0	0
S	1.0	2.8	0	0
SSW	1.1	2.8	0	0
SW	.6	1.9	0	0
WSW	1.0	2.6	0	0
W	.9	2.4	0	0
WNW	.9	2.4	0	0
NW	1.2	3.0	1	3
NNW	1.4	3.3	2	8
N	1.3	2.9	0	2

LOCATION 18

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.9	0	0
NE	1.5	3.0	8	7
ENE	2.0	3.0	29	25
E	2.0	3.3	24	18
ESE	2.1	3.3	36	37
SE	1.6	3.1	0	1
SSE	1.4	2.8	0	0
S	.9	2.5	0	0
SSW	1.0	2.3	0	0
SW	.5	2.0	0	0
WSW	1.2	2.6	0	0
W	1.0	2.7	0	0
WNW	.9	2.4	0	0
NW	1.1	2.4	1	4
NNW	1.2	3.1	2	7
N	.9	2.6	0	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 16

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.4	0	0
NE	1.1	2.4	4	5
ENE	1.4	2.3	16	15
E	1.6	2.7	24	19
ESE	1.8	2.9	56	56
SE	1.4	2.8	0	2
SSE	.8	2.4	0	0
S	.6	1.8	0	0
SSW	.8	1.9	0	0
SW	.1	1.3	0	0
WSW	.5	1.4	0	0
W	.5	1.6	0	0
WNW	.1	1.6	0	0
NW	.4	1.7	0	0
NNW	.8	2.0	0	0
N	.8	1.9	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.4	0	0
NE	1.5	3.1	11	10
ENE	1.8	2.9	27	24
E	2.0	3.2	29	24
ESE	1.9	3.3	30	32
SE	1.2	2.7	0	0
SSE	1.0	2.4	0	0
S	1.0	2.4	0	0
SSW	1.1	2.5	0	0
SW	.4	1.4	0	0
WSW	.7	1.7	0	0
W	.7	1.8	0	0
WNW	.7	1.6	0	0
NW	.8	1.8	0	1
NNW	1.2	2.3	3	8
N	.7	1.8	0	0

LOCATION 18

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.3	2.1	0	0
NE	1.1	2.5	2	3
ENE	1.6	2.5	25	20
E	1.8	3.1	33	26
ESE	1.8	3.0	38	36
SE	1.2	2.6	0	0
SSE	.7	2.4	0	0
S	.9	2.3	0	0
SSW	1.2	2.2	0	1
SW	.6	1.4	0	0
WSW	.7	1.6	0	0
W	.6	1.6	0	0
WNW	.7	1.8	0	0
NW	.8	1.8	0	1
NNW	1.1	2.2	5	11
N	.6	1.8	0	0

TABLE E-119
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.1	0	0
NE	1.0	2.3	5	4
ENE	.8	2.0	0	1
E	.5	2.1	0	0
ESE	.8	2.1	0	0
SE	.9	2.3	0	0
SSE	.6	1.8	0	0
S	.7	2.3	0	0
SSW	.6	1.9	0	0
SW	.5	1.5	0	0
WSW	.6	1.7	0	0
W	.7	2.1	0	1
WNW	.6	1.6	0	0
NW	1.0	2.1	12	17
NNW	1.5	3.2	81	70
N	1.3	2.7	1	6

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 16

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.2	2.6	0	0
NE	1.7	3.7	28	21
ENE	2.1	3.4	37	33
E	2.0	3.5	18	13
ESE	2.0	3.4	15	16
SE	1.5	3.1	0	0
SSE	1.2	2.7	0	0
S	.9	2.5	0	0
SSW	1.1	2.9	0	0
SW	.5	1.8	0	0
WSW	1.2	2.5	0	1
W	.9	2.3	0	1
WNW	.9	2.2	0	0
NW	.9	2.5	4	8
NNW	1.3	2.9	6	13
N	1.4	3.2	1	4

LOCATION 17

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.9	0	0
NE	2.0	3.7	27	20
ENE	2.3	3.5	24	20
E	2.2	3.4	14	10
ESE	2.2	3.5	13	14
SE	1.8	3.4	0	1
SSE	1.4	3.0	0	0
S	1.0	2.8	0	0
SSW	1.1	2.8	0	0
SW	.6	1.8	0	0
WSW	1.0	2.6	0	0
W	.9	2.4	0	0
WNW	.9	2.4	0	0
NW	1.2	3.0	10	15
NNW	1.4	3.3	11	17
N	1.3	2.9	0	1

LOCATION 18

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.9	1	1
NE	1.5	3.0	12	9
ENE	2.0	3.0	21	18
E	2.0	3.3	20	15
ESE	2.1	3.3	25	23
SE	1.6	3.1	0	1
SSE	1.4	2.8	0	0
S	.9	2.5	0	0
SSW	1.0	2.3	0	0
SW	.5	2.0	0	0
WSW	1.2	2.6	1	2
W	1.0	2.7	3	4
WNW	.9	2.4	1	2
NW	1.1	2.4	5	9
NNW	1.2	3.1	10	16
N	.9	2.6	0	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 16

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.4	1	1
NE	1.1	2.4	14	12
ENE	1.4	2.3	17	16
E	1.6	2.7	21	16
ESE	1.8	2.9	46	44
SE	1.4	2.8	0	2
SSE	.8	2.4	0	0
S	.6	1.8	0	0
SSW	.8	1.9	0	0
SW	.1	1.3	0	0
WSW	.5	1.4	0	0
W	.5	1.6	0	0
WNW	.1	1.6	0	0
NW	.4	1.7	0	1
NNW	.8	2.0	5	12
N	.8	1.9	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.4	0	0
NE	1.5	3.1	19	16
ENE	1.8	2.9	20	19
E	2.0	3.2	24	19
ESE	1.9	3.3	31	32
SE	1.2	2.7	0	0
SSE	1.0	2.4	0	0
S	1.0	2.4	0	1
SSW	1.1	2.5	0	0
SW	.4	1.4	0	0
WSW	.7	1.7	0	0
W	.7	1.8	0	0
WNW	.7	1.6	0	0
NW	.8	1.8	0	2
NNW	1.2	2.3	4	11
N	.7	1.8	0	0

LOCATION 18

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.3	2.1	0	0
NE	1.1	2.5	10	8
ENE	1.6	2.5	15	14
E	1.8	3.1	29	21
ESE	1.8	3.0	33	31
SE	1.2	2.6	0	1
SSE	.7	2.4	0	0
S	.9	2.3	0	1
SSW	1.2	2.2	0	1
SW	.6	1.4	0	0
WSW	.7	1.6	0	0
W	.6	1.6	0	0
WNW	.7	1.8	1	2
NW	.8	1.8	2	6
NNW	1.1	2.2	9	16
N	.7	1.8	0	0

TABLE E-120
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.4	0	0
NE	1.3	2.5	16	12
ENE	.9	2.2	1	1
E	.7	1.7	0	0
ESE	.7	2.0	0	0
SE	.6	2.5	0	0
SSE	.4	1.9	0	0
S	.5	2.0	0	0
SSW	.8	1.8	0	0
SW	.3	1.5	0	0
WSW	.4	1.6	0	0
W	.9	2.5	1	1
WNW	.8	1.9	1	1
NW	1.2	2.7	46	46
NNW	1.3	2.8	36	38
N	1.0	2.5	0	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.6	4	3
NE	1.0	2.4	11	8
ENE	.7	2.6	1	1
E	1.0	2.6	7	5
ESE	1.0	2.5	5	5
SE	.7	1.9	0	0
SSE	.5	1.9	0	0
S	.6	1.7	0	0
SSW	.1	2.1	0	0
SW	.6	1.5	0	0
WSW	.1	1.7	0	0
W	.9	2.6	18	16
WNW	.7	1.5	2	2
NW	.9	2.3	31	32
NNW	1.0	2.4	21	25
N	.9	2.3	0	2

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	3.0	0	0
NE	2.1	3.7	27	20
ENE	2.1	3.4	25	21
E	2.0	3.2	11	8
ESE	2.2	3.4	21	22
SE	1.6	3.1	0	0
SSE	1.2	2.8	0	0
S	.7	2.1	0	0
SSW	.9	2.3	0	0
SW	.7	2.5	0	0
WSW	1.4	3.2	0	0
W	1.4	3.3	2	2
WNW	1.4	3.2	6	8
NW	1.4	2.7	7	13
NNW	1.3	3.3	1	4
N	.9	2.2	0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.9	0	0
NE	1.3	3.1	5	4
ENE	1.6	2.6	12	12
E	1.9	3.0	20	16
ESE	1.9	3.2	29	29
SE	1.5	2.9	0	0
SSE	1.0	2.4	0	0
S	.4	2.1	0	0
SSW	.6	2.0	0	0
SW	.6	1.5	0	0
WSW	1.2	2.5	1	1
W	1.2	2.6	5	6
WNW	1.4	2.5	29	32
NW	.8	2.0	0	0
NNW	.7	2.6	0	0
N	.6	2.1	0	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.3	3.9	25	17
NE	1.9	3.5	31	23
ENE	1.5	2.7	7	7
E	1.4	2.6	2	1
ESE	1.4	2.6	0	1
SE	1.0	2.3	0	0
SSE	1.1	2.7	0	0
S	1.1	2.3	0	0
SSW	1.5	2.8	0	2
SW	.9	2.1	0	0
WSW	1.3	2.7	1	1
W	1.4	3.1	10	11
WNW	1.2	3.0	2	3
NW	1.4	3.2	16	21
NNW	1.3	3.3	5	11
N	1.4	3.2	0	1

2000 FULL-BUILD PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.3	0	0
NE	1.6	3.2	25	20
ENE	1.7	2.9	25	22
E	1.8	3.2	27	22
ESE	1.7	3.1	17	20
SE	.9	2.5	0	0
SSE	.8	2.3	0	0
S	1.2	2.9	1	1
SSW	1.5	2.9	3	5
SW	.7	1.6	0	0
WSW	.9	2.0	0	0
W	1.0	2.1	1	1
WNW	.8	1.8	0	0
NW	.8	1.8	0	1
NNW	1.1	2.1	2	7
N	.8	1.9	0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.7	0	0
NE	.8	2.5	1	2
ENE	1.2	2.2	13	13
E	1.5	2.8	32	25
ESE	1.5	2.8	49	47
SE	.7	2.3	0	0
SSE	.3	2.2	0	0
S	.6	2.1	0	0
SSW	1.0	2.2	0	1
SW	.4	1.4	0	0
WSW	.8	1.6	0	0
W	.9	1.8	2	4
WNW	.8	1.7	1	2
NW	.5	1.8	0	0
NNW	.8	2.0	1	6
N	.7	1.9	0	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.4	4.0	38	28
NE	2.0	3.2	41	33
ENE	1.5	2.8	8	10
E	1.4	2.7	2	2
ESE	1.2	2.5	0	0
SE	1.2	2.8	0	0
SSE	1.4	2.9	0	0
S	1.3	2.6	1	2
SSW	1.7	2.8	5	9
SW	.7	1.9	0	0
WSW	.9	2.3	0	0
W	1.1	2.9	1	1
WNW	.7	1.8	0	0
NW	1.1	2.4	4	10
NNW	1.0	2.5	0	2
N	1.3	2.6	0	1

TABLE E-121

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.4	0	0
NE	1.3	2.5	10	7
ENE	.9	2.2	1	1
E	.7	1.7	0	0
ESE	.7	2.0	0	0
SE	.6	2.5	0	0
SSE	.4	1.9	0	0
S	.5	2.0	0	0
SSW	.8	1.8	0	0
SW	.3	1.5	0	0
WSW	.4	1.6	0	0
W	.9	2.5	4	4
WNW	.8	1.9	1	1
NW	1.2	2.7	49	48
NNW	1.3	2.8	36	37
N	1.0	2.5	0	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.6	2	2
NE	1.0	2.4	12	9
ENE	.7	2.6	4	4
E	1.0	2.6	8	5
ESE	1.0	2.5	3	4
SE	.7	1.9	0	0
SSE	.5	1.9	0	0
S	.6	1.7	0	0
SSW	.1	2.1	0	0
SW	.6	1.5	0	0
WSW	.1	1.7	0	0
W	.9	2.6	27	25
WNW	.7	1.5	0	0
NW	.9	2.3	28	30
NNW	1.0	2.4	15	20
N	.9	2.3	0	2

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	3.0	0	0
NE	2.1	3.7	28	20
ENE	2.1	3.4	16	14
E	2.0	3.2	6	4
ESE	2.2	3.4	8	8
SE	1.6	3.1	0	0
SSE	1.2	2.8	0	0
S	.7	2.1	0	0
SSW	.9	2.3	0	0
SW	.7	2.5	0	0
WSW	1.4	3.2	2	3
W	1.4	3.3	8	8
WNW	1.4	3.2	16	17
NW	1.4	2.7	9	13
NNW	1.3	3.3	6	11
N	.9	2.2	0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.9	1	1
NE	1.3	3.1	12	10
ENE	1.6	2.6	10	9
E	1.9	3.0	17	12
ESE	1.9	3.2	24	23
SE	1.5	2.9	0	1
SSE	1.0	2.4	0	0
S	.4	2.1	0	0
SSW	.6	2.0	0	0
SW	.6	1.5	0	0
WSW	1.2	2.5	1	2
W	1.2	2.6	9	10
WNW	1.4	2.5	25	27
NW	.8	2.0	0	2
NNW	.7	2.6	0	2
N	.6	2.1	0	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.3	3.9	12	8
NE	1.9	3.5	17	12
ENE	1.5	2.7	3	3
E	1.4	2.6	1	1
ESE	1.4	2.6	0	0
SE	1.0	2.3	0	0
SSE	1.1	2.7	0	0
S	1.1	2.3	0	0
SSW	1.5	2.8	0	0
SW	.9	2.1	0	0
WSW	1.3	2.7	0	0
W	1.4	3.1	13	12
WNW	1.2	3.0	13	13
NW	1.4	3.2	29	31
NNW	1.3	3.3	12	17
N	1.4	3.2	0	2

2000 FULL-BUILD PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.3	0	0
NE	1.6	3.2	34	26
ENE	1.7	2.9	19	17
E	1.8	3.2	22	17
ESE	1.7	3.1	14	16
SE	.9	2.5	0	0
SSE	.8	2.3	0	0
S	1.2	2.9	4	6
SSW	1.5	2.9	3	6
SW	.7	1.6	0	0
WSW	.9	2.0	0	0
W	1.0	2.1	1	2
WNW	.8	1.8	0	0
NW	.8	1.8	1	3
NNW	1.1	2.1	2	6
N	.8	1.9	0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.7	3	2
NE	.8	2.5	8	6
ENE	1.2	2.2	11	11
E	1.5	2.8	26	19
ESE	1.5	2.8	36	33
SE	.7	2.3	0	0
SSE	.3	2.2	0	0
S	.6	2.1	0	1
SSW	1.0	2.2	0	1
SW	.4	1.4	0	0
WSW	.8	1.6	0	0
W	.9	1.8	3	4
WNW	.8	1.7	5	6
NW	.5	1.8	1	3
NNW	.8	2.0	6	12
N	.7	1.9	0	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.4	4.0	31	22
NE	2.0	3.2	31	23
ENE	1.5	2.8	6	7
E	1.4	2.7	3	2
ESE	1.2	2.5	0	0
SE	1.2	2.8	0	0
SSE	1.4	2.9	0	0
S	1.3	2.6	2	2
SSW	1.7	2.8	2	4
SW	.7	1.9	0	0
WSW	.9	2.3	0	0
W	1.1	2.9	13	14
WNW	.7	1.8	0	0
NW	1.1	2.4	7	13
NNW	1.0	2.5	4	9
N	1.3	2.6	0	2

TABLE E-122

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.1	0	0
NE	.5	1.9	0	0
ENE	.6	1.9	0	1
E	.7	2.2	1	0
ESE	.9	1.9	1	2
SE	.1	1.6	0	0
SSE	.2	1.6	0	0
S	.1	1.6	0	0
SSW	.6	1.7	0	0
SW	.5	1.4	0	0
WSW	.2	1.4	0	0
W	.7	1.7	2	3
WNW	.5	1.4	0	0
NW	.7	1.9	5	11
NNW	1.2	2.5	92	81
N	.6	2.0	0	0

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.5	0	0
NE	.1	1.6	0	0
ENE	.1	1.8	0	0
E	.1	1.9	0	0
ESE	.1	1.2	0	0
SE	.1	1.6	0	0
SSE	.1	1.7	0	0
S	.1	1.3	0	0
SSW	.1	1.8	0	0
SW	.3	1.4	0	0
WSW	.1	1.8	0	0
W	.4	1.5	5	4
WNW	.2	1.2	0	0
NW	.1	1.4	0	0
NNW	.1	1.7	0	0
N	.4	1.9	0	1

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.6	16	13
NE	1.3	2.5	44	34
ENE	.9	2.3	5	7
E	.4	1.5	0	0
ESE	.5	1.7	0	0
SE	.5	1.9	0	0
SSE	.6	2.3	0	0
S	.6	2.1	0	0
SSW	.7	1.9	0	0
SW	.5	1.6	0	0
WSW	.5	1.7	0	0
W	1.0	2.7	31	35
WNW	.7	2.0	1	2
NW	.7	2.1	1	3
NNW	.8	1.9	2	6
N	.7	2.1	0	1

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.9	3	2
NE	1.4	3.0	33	23
ENE	.9	2.3	1	2
E	.8	2.2	0	0
ESE	.5	1.9	0	0
SE	.3	1.5	0	0
SSE	.5	1.7	0	0
S	.5	1.5	0	0
SSW	.8	1.7	0	0
SW	.5	1.3	0	0
WSW	.5	1.9	0	0
W	.6	1.9	0	0
WNW	1.1	2.5	42	40
NW	.8	2.3	3	6
NNW	1.1	2.6	17	23
N	1.1	3.1	1	4

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.1	3.7	13	9
NE	2.1	3.7	36	26
ENE	1.6	3.1	6	6
E	1.3	2.7	1	0
ESE	.9	2.9	0	0
SE	.9	2.8	0	0
SSE	1.1	2.9	0	0
S	1.0	2.9	0	0
SSW	1.6	2.9	0	1
SW	.8	1.9	0	0
WSW	1.3	3.0	1	1
W	1.3	3.0	2	3
WNW	1.6	3.5	35	32
NW	1.2	3.0	3	6
NNW	1.4	3.1	4	10
N	1.0	3.1	0	0

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	3.2	0	0
NE	1.9	4.1	19	14
ENE	1.9	3.3	16	15
E	1.7	2.9	3	2
ESE	1.2	2.5	0	0
SE	.7	2.1	0	0
SSE	.1	1.8	0	0
S	.5	2.1	0	0
SSW	1.3	2.7	0	0
SW	.8	1.9	0	0
WSW	1.8	3.6	8	12
W	1.8	3.8	35	35
WNW	1.5	3.3	19	21
NW	1.0	2.0	0	0
NNW	.9	2.1	0	0
N	.6	1.7	0	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.7	7	6
NE	1.3	3.0	57	42
ENE	.8	2.3	6	7
E	.7	2.2	0	0
ESE	.7	1.9	0	0
SE	.9	2.2	0	0
SSE	.8	2.2	0	0
S	.3	1.8	0	0
SSW	.5	1.5	0	0
SW	.1	1.3	0	0
WSW	.6	1.5	0	0
W	.6	1.6	0	0
WNW	.7	1.6	2	3
NW	.7	1.9	4	8
NNW	.9	2.1	20	27
N	.9	2.5	1	4

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.8	3.6	14	10
NE	2.0	3.6	48	35
ENE	1.5	3.1	9	9
E	1.2	2.7	1	0
ESE	1.1	3.0	0	0
SE	1.4	3.3	0	0
SSE	1.4	3.3	0	0
S	1.4	2.8	2	3
SSW	1.8	3.1	8	10
SW	.6	1.7	0	0
WSW	.9	2.3	0	0
W	1.1	3.1	1	2
WNW	.9	2.2	0	0
NW	1.2	2.4	10	16
NNW	1.3	2.9	6	12
N	1.2	2.7	0	1

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.7	0	0
NE	1.5	3.7	29	25
ENE	1.8	3.2	44	35
E	1.6	2.7	17	15
ESE	1.0	2.3	0	0
SE	.1	1.9	0	0
SSE	.5	2.0	0	0
S	1.1	2.9	1	2
SSW	1.4	2.8	4	8
SW	.7	1.6	0	0
WSW	.9	1.9	0	0
W	1.0	2.6	3	5
WNW	.8	1.7	0	1
NW	.8	1.9	0	3
NNW	.9	2.1	0	1
N	.8	2.2	0	0

TABLE E-123
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.1	1	1
NE	.5	1.9	1	1
ENE	.6	1.9	1	2
E	.7	2.2	3	2
ESE	.9	1.9	0	1
SE	.1	1.6	0	0
SSE	.2	1.6	0	0
S	.1	1.6	0	0
SSW	.6	1.7	0	0
SW	.5	1.4	0	0
WSW	.2	1.4	0	0
W	.7	1.7	0	0
WNW	.5	1.4	0	0
NW	.7	1.9	12	19
NNW	1.2	2.5	81	72
N	.6	2.0	0	1

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.5	1	1
NE	.1	1.6	10	8
ENE	.1	1.8	46	36
E	.1	1.9	0	0
ESE	.1	1.2	0	0
SE	.1	1.6	0	0
SSE	.1	1.7	10	9
S	.1	1.3	0	0
SSW	.1	1.8	0	0
SW	.3	1.4	0	0
WSW	.1	1.8	0	0
W	.4	1.5	0	0
WNW	.2	1.2	0	0
NW	.1	1.4	23	29
NNW	.1	1.7	0	0
N	.4	1.9	10	18

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.6	9	7
NE	1.3	2.5	27	20
ENE	.9	2.3	8	8
E	.4	1.5	0	0
ESE	.5	1.7	0	0
SE	.5	1.9	0	0
SSE	.6	2.3	0	0
S	.6	2.1	0	1
SSW	.7	1.9	0	0
SW	.5	1.6	0	0
WSW	.5	1.7	0	0
W	1.0	2.7	39	38
WNW	.7	2.0	5	6
NW	.7	2.1	9	14
NNW	.8	1.9	2	6
N	.8	2.2	0	1

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.9	3	2
NE	1.4	3.0	29	20
ENE	.9	2.3	3	3
E	.8	2.2	1	0
ESE	.5	1.9	0	0
SE	.3	1.5	0	0
SSE	.5	1.7	0	0
S	.5	1.5	0	0
SSW	.8	1.7	0	0
SW	.5	1.3	0	0
WSW	.5	1.9	0	0
W	.6	1.9	0	0
WNW	1.1	2.5	42	39
NW	.8	2.3	6	10
NNW	1.1	2.6	16	21
N	1.1	3.1	1	5

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.1	3.7	7	5
NE	2.1	3.7	22	16
ENE	1.6	3.1	4	4
E	1.3	2.7	1	1
ESE	.9	2.9	0	0
SE	.9	2.8	0	0
SSE	1.1	2.9	0	0
S	1.0	2.9	0	0
SSW	1.6	2.9	0	0
SW	.8	1.9	0	0
WSW	1.3	3.0	1	1
W	1.3	3.0	5	5
WNW	1.6	3.5	49	47
NW	1.2	3.0	6	10
NNW	1.4	3.1	6	11
N	1.0	3.1	0	0

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	3.2	0	0
NE	1.9	4.1	28	21
ENE	1.9	3.3	12	11
E	1.7	2.9	2	1
ESE	1.2	2.5	0	0
SE	.7	2.1	0	0
SSE	.1	1.8	0	0
S	.5	2.1	0	0
SSW	1.3	2.7	0	0
SW	.8	1.9	0	0
WSW	1.8	3.6	5	9
W	1.8	3.8	30	30
WNW	1.5	3.3	24	27
NW	1.0	2.0	0	0
NNW	.9	2.1	0	0
N	.6	1.7	0	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.7	9	7
NE	1.3	3.0	52	37
ENE	.9	2.3	9	9
E	.7	2.3	2	4
ESE	.7	1.9	0	0
SE	.9	2.2	0	0
SSE	.8	2.2	0	0
S	.3	1.8	0	0
SSW	.5	1.5	0	0
SW	.1	1.3	0	0
WSW	.6	1.5	0	0
W	.6	1.6	0	0
WNW	.7	1.6	1	1
NW	.7	1.9	8	14
NNW	.9	2.1	17	24
N	.9	2.5	1	4

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.9	3.6	14	9
NE	2.0	3.6	37	26
ENE	1.5	3.1	10	10
E	1.2	2.7	1	1
ESE	1.1	3.0	1	2
SE	1.4	3.3	0	1
SSE	1.4	3.3	0	1
S	1.4	2.8	3	3
SSW	1.8	3.1	3	4
SW	.6	1.7	0	0
WSW	.9	2.3	0	0
W	1.1	3.1	11	11
WNW	.9	2.2	1	2
NW	1.2	2.4	9	13
NNW	1.3	2.9	10	16
N	1.2	2.7	0	1

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.7	0	0
NE	1.5	3.7	49	36
ENE	1.8	3.2	32	26
E	1.6	2.7	11	10
ESE	1.0	2.3	0	1
SE	.1	1.9	0	0
SSE	.5	2.0	0	0
S	1.1	2.9	3	5
SSW	1.4	2.8	2	5
SW	.7	1.6	0	0
WSW	.9	1.9	0	0
W	1.0	2.0	2	3
WNW	.8	1.7	0	1
NW	.8	1.9	0	3
NNW	.8	2.0	0	1
N	.8	2.1	0	0

TABLE E-124
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.5	0	0
NE	1.1	2.4	4	3
ENE	.8	2.0	0	0
E	1.0	2.4	0	0
ESE	1.2	2.5	2	2
SE	1.2	3.0	0	0
SSE	1.0	2.7	0	0
S	.9	2.4	0	0
SSW	1.0	2.5	0	0
SW	1.0	2.7	3	6
WSW	1.5	3.1	16	21
W	1.1	2.5	9	7
WNW	1.3	3.0	54	45
NW	1.1	2.4	11	14
NNW	.9	2.3	0	2
N	.5	1.8	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.4	2.8	19	13
NE	1.3	2.5	32	22
ENE	.9	2.5	5	5
E	.5	1.6	0	0
ESE	.7	2.0	0	0
SE	.7	1.9	0	0
SSE	.7	2.2	0	0
S	.7	2.4	0	0
SSW	.7	2.2	0	0
SW	.6	1.8	0	0
WSW	.4	1.6	0	0
W	.8	2.4	1	1
WNW	.9	2.1	14	15
NW	.7	1.7	1	3
NNW	1.0	2.4	14	19
N	1.4	2.8	14	21

LOCATION 27

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.6	0	0
NE	.7	2.1	1	1
ENE	.8	2.2	4	4
E	.7	1.9	0	0
ESE	1.2	2.5	21	19
SE	.6	2.1	0	0
SSE	.9	2.2	0	0
S	.6	1.9	0	0
SSW	.6	1.8	0	0
SW	.5	1.8	0	0
WSW	.6	1.9	0	0
W	.5	1.8	0	0
WNW	1.0	2.5	62	57
NW	.6	2.0	0	1
NNW	.9	2.0	13	18
N	.9	2.5	0	2

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 25

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.4	0	0
NE	1.1	3.6	2	2
ENE	1.5	3.0	13	11
E	1.6	2.8	11	7
ESE	1.2	2.8	0	1
SE	.8	2.4	0	0
SSE	.8	2.1	0	0
S	.8	2.4	0	0
SSW	1.4	2.9	1	2
SW	.8	1.8	0	0
WSW	1.4	2.8	7	10
W	1.5	2.9	46	44
WNW	1.2	2.6	21	22
NW	.8	2.1	0	0
NNW	.7	2.0	0	0
N	.6	1.7	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.6	3.9	0	0
NE	2.5	4.6	64	54
ENE	2.2	3.8	31	32
E	1.2	2.6	0	0
ESE	.1	2.0	0	0
SE	.1	2.1	0	0
SSE	.9	2.5	0	0
S	1.2	2.7	0	0
SSW	1.6	3.0	0	2
SW	.7	1.8	0	0
WSW	1.3	2.7	0	1
W	1.4	2.8	4	9
WNW	1.0	2.6	0	1
NW	.8	2.5	0	0
NNW	.6	2.3	0	0
N	.4	1.8	0	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.6	3.9	17	12
NE	2.4	3.9	30	21
ENE	1.7	3.3	3	4
E	1.2	2.9	0	0
ESE	.7	2.5	0	0
SE	.6	2.5	0	0
SSE	1.2	3.0	0	0
S	1.1	2.6	0	0
SSW	1.5	3.0	0	0
SW	.7	1.9	0	0
WSW	1.5	3.1	0	1
W	1.8	3.8	15	14
WNW	1.4	3.5	2	3
NW	1.2	3.4	0	2
NNW	1.8	3.5	10	15
N	2.8	4.3	21	28

2000 FULL BUILD PRE-MITIGATION

LOCATION 25

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.6	0	0
NE	1.1	2.9	6	5
ENE	1.4	3.0	27	23
E	1.4	2.8	20	15
ESE	1.2	2.6	5	7
SE	.9	2.3	0	0
SSE	1.0	2.5	0	0
S	1.3	2.7	11	13
SSW	1.6	2.7	22	20
SW	.6	1.5	0	0
WSW	.9	1.8	0	1
W	.8	1.9	1	1
WNW	.8	1.7	3	4
NW	.9	2.1	3	7
NNW	.8	2.0	0	2
N	.8	2.0	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.1	2.5	0	0
NE	1.9	4.4	37	32
ENE	2.2	3.9	48	42
E	1.2	2.6	0	0
ESE	.6	2.0	0	0
SE	.4	2.2	0	0
SSE	1.0	2.7	0	0
S	1.6	3.2	6	10
SSW	1.8	3.3	8	12
SW	.8	1.7	0	0
WSW	.7	1.7	0	0
W	.7	2.1	0	0
WNW	.8	2.3	0	0
NW	.9	2.3	0	2
NNW	.8	2.2	0	0
N	.7	2.2	0	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.5	4.0	16	12
NE	2.3	3.9	33	23
ENE	1.8	3.5	7	7
E	1.1	2.7	0	0
ESE	.9	2.9	0	0
SE	1.3	3.3	0	0
SSE	1.6	3.3	0	0
S	1.5	3.1	0	0
SSW	1.7	3.1	0	1
SW	.6	2.0	0	0
WSW	.9	2.0	0	0
W	1.1	2.6	0	0
WNW	1.0	2.7	0	0
NW	1.4	3.5	2	5
NNW	1.8	3.5	18	23
N	2.7	4.1	21	28

TABLE E-125

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.5	0	0
NE	1.1	2.4	3	2
ENE	.8	2.0	0	0
E	1.0	2.4	1	0
ESE	1.2	2.5	0	1
SE	1.2	3.0	0	0
SSE	1.0	2.7	0	0
S	.9	2.4	0	0
SSW	1.0	2.5	0	0
SW	1.0	2.7	5	10
WSW	1.5	3.1	12	16
W	1.1	2.5	7	6
WNW	1.3	3.0	62	51
NW	1.1	2.4	9	12
NNW	.9	2.3	1	3
N	.5	1.8	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.4	2.6	20	13
NE	1.3	2.5	26	18
ENE	.9	2.5	8	7
E	.5	1.6	0	0
ESE	.7	2.0	0	0
SE	.7	1.9	0	0
SSE	.7	2.2	0	0
S	.7	2.4	1	1
SSW	.7	2.2	0	0
SW	.6	1.8	0	0
WSW	.4	1.6	0	0
W	.8	2.4	9	9
WNW	.9	2.1	12	13
NW	.7	1.7	2	5
NNW	1.0	2.4	10	15
N	1.4	2.8	11	17

LOCATION 27

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.6	4	2
NE	.7	2.1	3	3
ENE	.8	2.2	5	5
E	.7	1.9	0	0
ESE	1.2	2.5	7	7
SE	.6	2.1	0	0
SSE	.9	2.2	0	0
S	.6	1.9	0	0
SSW	.6	1.8	0	0
SW	.5	1.8	0	0
WSW	.6	1.9	0	0
W	.5	1.8	0	0
WNW	1.0	2.5	71	62
NW	.6	2.0	4	7
NNW	.9	2.0	5	9
N	.9	2.5	2	5

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 25

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.4	0	0
NE	1.1	3.6	17	13
ENE	1.5	3.0	16	14
E	1.6	2.8	7	5
ESE	1.2	2.8	2	3
SE	.8	2.4	0	0
SSE	.8	2.1	0	0
S	.8	2.4	0	0
SSW	1.4	2.9	1	2
SW	.8	1.8	0	0
WSW	1.4	2.8	4	7
W	1.5	2.9	35	34
WNW	1.2	2.6	18	20
NW	.8	2.1	0	2
NNW	.7	2.0	0	0
N	.6	1.7	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	3.9	1	1
NE	2.5	4.6	67	55
ENE	2.2	3.8	26	26
E	1.2	2.6	0	0
ESE	.1	2.0	0	0
SE	.1	2.1	0	0
SSE	.9	2.5	0	0
S	1.2	2.7	0	1
SSW	1.6	3.0	0	2
SW	.7	1.8	0	0
WSW	1.3	2.7	0	1
W	1.4	2.8	5	10
WNW	1.0	2.6	0	2
NW	.8	2.5	0	2
NNW	.6	2.3	0	0
N	.4	1.8	0	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.6	3.9	9	5
NE	2.4	3.9	18	12
ENE	1.7	3.3	4	4
E	1.2	2.9	0	0
ESE	.7	2.5	0	0
SE	.6	2.5	0	0
SSE	1.2	3.0	0	0
S	1.1	2.6	0	0
SSW	1.5	3.0	0	0
SW	.7	1.9	0	0
WSW	1.5	3.1	1	1
W	1.8	3.8	23	19
WNW	1.4	3.5	14	13
NW	1.2	3.4	8	11
NNW	1.8	3.5	17	21
N	2.8	4.3	7	13

2000 FULL-BUILD PRE-MITIGATION

LOCATION 25

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.6	1	1
NE	1.1	2.9	15	12
ENE	1.4	3.0	29	24
E	1.4	2.8	17	13
ESE	1.2	2.6	6	7
SE	.9	2.3	0	0
SSE	1.0	2.5	0	0
S	1.3	2.7	10	11
SSW	1.6	2.7	8	9
SW	.6	1.5	0	0
WSW	.9	1.8	0	0
W	.8	1.9	1	1
WNW	.8	1.7	2	3
NW	.9	2.1	8	13
NNW	.8	2.0	1	4
N	.8	2.0	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.1	2.5	0	0
NE	1.9	4.4	56	46
ENE	2.2	3.9	36	34
E	1.2	2.6	1	1
ESE	.6	2.0	0	0
SE	.4	2.2	0	0
SSE	1.0	2.7	0	0
S	1.6	3.2	5	9
SSW	1.8	3.3	2	6
SW	.8	1.7	0	0
WSW	.7	1.7	0	0
W	.7	2.1	0	0
WNW	.8	2.3	0	1
NW	.9	2.3	1	4
NNW	.8	1.7	0	0
N	.7	2.2	0	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.5	4.0	12	8
NE	2.3	3.9	25	17
ENE	1.8	3.5	10	9
E	1.1	2.7	0	0
ESE	.9	2.9	0	0
SE	1.3	3.3	0	0
SSE	1.6	3.3	0	0
S	1.5	3.1	0	1
SSW	1.7	3.1	0	1
SW	.6	2.0	0	0
WSW	.9	2.0	0	0
W	1.1	2.6	0	0
WNW	1.0	2.7	1	1
NW	1.4	3.2	14	17
NNW	1.8	3.5	28	30
N	2.7	4.1	10	16

TABLE E-126

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	0	0	0
SE	.0	0	0	0
SSE	.0	0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.4	1	0
NE	1.0	2.3	16	11
ENE	1.1	2.5	25	17
E	.6	1.7	6	0
ESE	1.1	2.2	10	14
SE	1.0	2.2	6	0
SSE	1.1	2.4	7	1
S	1.0	2.3	5	5
SSW	.8	2.4	0	0
SW	.8	2.2	4	9
WSW	.7	2.0	1	0
W	.7	2.1	2	2
WNW	.8	2.1	4	8
NW	.8	1.8	10	12
NNW	.6	2.4	6	13
N	1.0	2.3	9	4

LOCATION 30

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.1	1	1
NE	1.0	2.3	29	19
ENE	.9	2.1	17	13
E	.1	1.6	0	0
ESE	.9	1.9	9	9
SE	.8	2.1	0	0
SSE	1.0	2.4	1	2
S	.8	2.1	2	2
SSW	.8	2.1	1	1
SW	.8	2.1	10	16
WSW	.6	2.0	0	0
W	.7	2.0	4	4
WNW	.6	2.3	4	4
NW	.7	2.0	8	11
NNW	.7	2.0	10	15
N	.1	1.7	0	0

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 28

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.0	3.2	0	0
NE	2.3	4.1	41	33
ENE	1.8	3.7	11	12
E	.3	2.1	0	0
ESE	1.1	2.8	0	0
SE	2.0	3.7	0	1
SSE	2.4	4.0	2	3
S	2.2	3.8	21	25
SSW	2.4	3.7	24	24
SW	1.0	2.0	0	0
WSW	1.0	2.4	0	0
W	1.1	2.6	0	0
WNW	1.0	3.1	0	0
NW	.8	1.6	0	0
NNW	.4	1.3	0	0
N	.6	1.7	0	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.4	3.7	12	8
NE	2.4	4.2	32	23
ENE	2.1	3.8	17	14
E	1.5	2.9	1	0
ESE	1.7	3.2	1	1
SE	1.9	3.4	0	0
SSE	1.9	3.6	0	0
S	1.6	3.0	0	1
SSW	1.8	3.1	0	1
SW	.8	1.6	0	0
WSW	1.3	2.8	0	0
W	1.3	2.9	0	0
WNW	1.4	3.0	2	3
NW	1.4	2.6	5	6
NNW	1.9	3.1	26	29
N	2.4	3.7	7	14

LOCATION 30

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.7	2.9	4	3
NE	2.0	3.4	25	25
ENE	1.6	3.2	8	8
E	1.3	2.6	1	1
ESE	1.4	2.4	1	1
SE	1.3	2.5	0	0
SSE	1.3	2.7	0	0
S	1.2	2.5	0	0
SSW	1.5	2.8	1	2
SW	.8	2.1	0	0
WSW	1.3	3.2	1	1
W	1.6	3.4	28	26
WNW	1.3	2.5	11	12
NW	.9	2.0	0	1
NNW	1.4	2.4	7	13
N	1.7	3.0	1	6

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 28

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.7	0	0
NE	2.3	4.0	32	25
ENE	1.8	3.6	11	11
E	.5	1.8	0	0
ESE	1.4	3.3	3	4
SE	2.2	3.9	1	3
SSE	2.6	4.1	4	5
S	2.4	3.8	36	38
SSW	2.3	3.4	18	18
SW	.8	2.2	0	0
WSW	.6	1.5	0	0
W	.7	1.8	0	0
WNW	.9	2.5	0	0
NW	.8	1.8	0	0
NNW	.6	1.7	0	0
N	.6	1.6	0	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.6	4.0	5	4
NE	2.5	4.0	16	10
ENE	2.0	3.7	2	3
E	1.5	3.1	0	0
ESE	2.0	3.6	0	0
SE	2.1	3.5	0	0
SSE	2.2	3.6	0	0
S	1.9	3.4	0	0
SSW	1.8	3.1	0	0
SW	.8	1.6	0	0
WSW	.8	1.8	0	0
W	.6	2.0	0	0
WNW	1.7	3.8	3	4
NW	2.0	3.6	13	17
NNW	2.6	3.8	55	46
N	3.0	4.2	37	16

LOCATION 30

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.5	2.9	2	2
NE	1.6	3.2	27	18
ENE	1.3	2.9	6	6
E	1.0	2.4	0	0
ESE	1.2	2.7	1	1
SE	1.3	2.9	0	0
SSE	1.5	3.3	0	1
S	1.6	3.1	13	12
SSW	1.6	3.1	8	8
SW	.7	2.2	0	0
WSW	1.0	2.3	0	0
W	.8	2.0	0	0
WNW	1.0	2.8	4	5
NW	1.2	2.8	21	23
NNW	1.2	2.7	11	16
N	1.5	2.9	2	6

TABLE E-127
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.4	3	2
NE	1.0	2.3	19	13
ENE	1.1	2.5	25	19
E	.6	1.7	0	0
ESE	1.1	2.2	5	5
SE	1.0	2.2	0	0
SSE	1.1	2.4	1	1
S	1.0	2.3	4	4
SSW	.8	2.4	0	1
SW	.8	2.2	1	2
WSW	.7	2.0	1	1
W	.7	2.1	5	4
WNW	.8	2.1	14	13
NW	.8	1.8	10	13
NNW	.9	2.4	11	15
N	1.0	2.3	1	5

LOCATION 30

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.1	1	1
NE	1.0	2.3	23	15
ENE	.9	2.1	9	8
E	.1	1.6	0	0
ESE	.9	1.9	2	2
SE	.8	2.1	0	0
SSE	1.0	2.4	1	1
S	.8	2.1	3	3
SSW	.8	2.1	0	0
SW	.8	2.1	13	20
WSW	.6	2.0	2	2
W	.7	2.0	9	8
WNW	.6	2.3	32	28
NW	.7	2.0	2	4
NNW	.7	2.0	3	7
N	.1	1.7	0	0

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 28

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.0	3.2	0	0
NE	2.3	4.1	46	36
ENE	1.8	3.7	18	17
E	.3	2.1	0	0
ESE	1.1	2.8	0	1
SE	2.0	3.7	0	2
SSE	2.4	4.0	2	3
S	2.2	3.8	17	21
SSW	2.4	3.7	13	15
SW	1.0	2.0	0	0
WSW	1.0	2.4	0	0
W	1.1	2.6	1	1
WNW	1.0	3.1	2	4
NW	.8	1.6	0	0
NNW	.4	1.3	0	0
N	.6	1.7	0	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.4	3.7	9	6
NE	2.4	4.2	30	21
ENE	2.1	3.8	19	16
E	1.5	2.9	1	1
ESE	1.7	3.2	1	2
SE	1.9	3.4	0	0
SSE	1.9	3.6	0	0
S	1.6	3.0	1	1
SSW	1.8	3.1	0	1
SW	.8	1.6	0	0
WSW	1.3	2.8	0	0
W	1.3	2.9	2	2
WNW	1.4	3.0	12	13
NW	1.4	2.6	2	5
NNW	1.9	3.1	25	24
N	2.4	3.7	3	9

LOCATION 30

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.7	2.9	2	2
NE	2.0	3.4	24	18
ENE	1.6	3.2	10	9
E	1.3	2.9	2	1
ESE	1.4	2.4	0	0
SE	1.3	2.5	0	0
SSE	1.3	2.7	0	0
S	1.2	2.5	0	0
SSW	1.5	2.8	0	1
SW	.8	2.1	0	0
WSW	1.3	3.2	2	3
W	1.6	3.4	43	40
WNW	1.3	2.5	13	14
NW	.9	2.0	0	0
NNW	1.4	2.4	3	7
N	1.7	3.0	0	3

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 28

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.7	0	0
NE	2.3	4.0	49	39
ENE	1.8	3.6	18	17
E	.5	1.8	0	0
ESE	1.4	3.3	3	4
SE	2.2	3.9	1	4
SSE	2.6	4.1	3	3
S	2.4	3.8	25	28
SSW	2.3	3.4	7	10
SW	.8	2.2	0	0
WSW	.6	1.5	0	0
W	.7	1.8	0	0
WNW	.9	2.5	0	1
NW	.8	1.8	0	0
NNW	.6	1.7	0	0
N	.6	1.6	0	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.6	4.0	4	3
NE	2.5	4.0	14	10
ENE	2.0	3.7	6	5
E	1.5	3.1	0	0
ESE	2.0	3.6	1	1
SE	2.1	3.5	0	0
SSE	2.2	3.6	0	0
S	1.9	3.4	0	1
SSW	1.8	3.1	0	0
SW	.8	1.6	0	0
WSW	.8	1.8	0	0
W	.6	2.0	0	0
WNW	1.7	3.8	21	19
NW	2.0	3.6	18	20
NNW	2.6	3.8	30	34
N	3.0	4.2	4	10

LOCATION 30

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.5	2.9	2	2
NE	1.6	3.2	26	18
ENE	1.3	2.9	9	8
E	1.0	2.4	1	0
ESE	1.2	2.7	0	1
SE	1.3	2.9	0	0
SSE	1.5	3.3	0	1
S	1.6	3.1	6	6
SSW	1.6	3.1	3	4
SW	.7	2.2	0	0
WSW	1.0	2.3	0	0
W	.8	2.0	0	0
WNW	1.0	2.8	14	13
NW	1.2	2.8	28	29
NNW	1.2	2.7	9	14
N	1.5	2.9	1	4

TABLE E-128
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.6	4	3
NE	1.5	2.6	31	23
ENE	1.5	2.8	31	25
E	.5	2.0	0	0
ESE	.4	1.5	0	0
SE	1.1	2.1	0	0
SSE	.9	2.1	0	0
S	.9	2.1	0	0
SSW	.8	1.9	0	0
SW	1.0	2.1	2	7
WSW	.7	2.1	0	0
W	1.0	2.1	4	5
WNW	1.1	2.8	21	23
NW	.9	1.8	6	11
NNW	.6	2.0	0	0
N	.1	1.8	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.1	1	1
NE	.5	1.6	0	0
ENE	.7	1.8	4	4
E	.6	1.8	0	0
ESE	.7	1.7	0	1
SE	.8	2.2	0	0
SSE	.8	2.0	0	0
S	.6	2.1	0	0
SSW	.6	2.4	0	0
SW	.6	2.0	0	1
WSW	.5	2.1	0	0
W	.6	1.8	2	2
WNW	.9	2.3	83	73
NW	.6	1.8	2	4
NNW	.7	2.0	6	11
N	.8	2.0	1	3

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.7	3.3	8	6
NE	1.6	2.9	23	16
ENE	1.5	2.9	9	9
E	.7	2.1	0	0
ESE	1.2	2.6	0	0
SE	1.1	2.9	0	0
SSE	1.1	2.8	0	0
S	1.2	3.1	0	0
SSW	1.0	2.5	0	0
SW	.6	1.8	0	0
WSW	.6	2.0	0	0
W	.7	2.0	0	0
WNW	1.0	2.1	1	1
NW	1.1	2.2	5	9
NNW	1.6	2.7	43	41
N	1.9	3.1	11	18

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.4	0	0
NE	1.4	2.6	4	3
ENE	1.6	2.7	7	7
E	.8	2.3	0	0
ESE	.7	1.5	0	0
SE	1.1	2.1	0	0
SSE	1.1	2.0	0	0
S	1.0	1.9	0	0
SSW	1.0	2.6	0	0
SW	1.0	2.2	0	0
WSW	.9	1.9	0	0
W	1.1	2.6	0	0
WNW	1.8	3.8	91	89
NW	.7	1.8	0	0
NNW	.8	1.8	0	0
N	.8	1.9	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.2	0	0
NE	1.0	2.1	0	0
ENE	.7	2.2	0	0
E	.9	2.2	0	0
ESE	.9	2.0	0	0
SE	.8	2.2	0	0
SSE	.9	2.0	0	0
S	.8	1.8	0	0
SSW	.8	2.1	0	0
SW	.5	2.5	0	0
WSW	.8	1.8	0	0
W	.9	2.7	0	0
WNW	1.7	3.4	99	96
NW	1.0	2.5	1	4
NNW	.7	2.0	0	0
N	.8	2.3	0	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.9	3.2	4	3
NE	1.3	2.6	0	0
ENE	.1	2.3	0	0
E	.5	2.1	0	0
ESE	1.7	3.5	1	1
SE	1.8	3.3	0	0
SSE	1.7	3.6	0	0
S	1.3	3.2	0	0
SSW	.7	2.3	0	0
SW	.6	2.0	0	0
WSW	1.0	2.5	0	0
W	1.1	3.4	0	0
WNW	1.7	3.1	34	31
NW	1.5	2.5	8	11
NNW	2.0	3.1	48	43
N	2.2	3.3	5	10

2000 FULL-BUILD PRE-MITIGATION

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.6	0	0
NE	1.8	3.2	8	6
ENE	1.8	3.1	6	6
E	.6	2.0	0	0
ESE	.9	1.8	0	0
SE	1.4	2.4	0	0
SSE	1.6	3.0	0	0
S	1.4	3.2	0	0
SSW	1.4	2.7	0	0
SW	1.3	2.9	0	1
WSW	1.2	2.7	0	0
W	1.6	3.6	7	7
WNW	2.0	4.4	64	60
NW	1.6	3.1	15	10
NNW	1.1	2.6	0	0
N	.6	2.1	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.2	0	0
NE	.9	2.1	0	0
ENE	.7	1.8	0	0
E	.7	1.9	0	0
ESE	1.1	2.2	0	0
SE	1.3	2.4	0	0
SSE	1.4	3.1	0	0
S	1.2	2.8	0	0
SSW	1.1	2.4	0	0
SW	.9	2.9	0	0
WSW	1.0	2.4	0	0
W	1.8	3.7	35	33
WNW	1.6	3.6	29	29
NW	1.7	2.9	37	38
NNW	.9	2.5	0	0
N	.7	2.1	0	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.2	3.7	4	3
NE	1.5	2.9	1	1
ENE	.6	2.2	0	0
E	.8	2.3	0	0
ESE	1.9	3.5	1	1
SE	1.6	3.2	0	0
SSE	1.7	3.7	0	0
S	.8	2.7	0	0
SSW	.6	1.7	0	0
SW	.4	1.4	0	0
WSW	.8	1.7	0	0
W	.7	2.0	0	0
WNW	2.0	3.2	35	32
NW	1.7	3.0	11	14
NNW	2.3	3.3	44	40
N	2.4	3.5	4	9

TABLE E-129

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.6	2	2
NE	1.5	2.6	17	13
ENE	1.5	2.8	22	19
E	.5	2.0	0	0
ESE	.4	1.5	0	0
SE	1.1	2.1	0	0
SSE	.9	2.1	0	0
S	.9	2.1	0	0
SSW	.8	1.9	0	0
SW	1.0	2.1	2	6
WSW	.7	2.1	0	0
W	1.0	2.1	3	4
WNW	1.1	2.8	54	55
NW	.9	1.8	0	2
NNW	.6	2.0	0	0
N	.1	1.8	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.1	0	0
NE	.5	1.6	0	0
ENE	.7	1.8	1	2
E	.6	1.8	0	0
ESE	.7	1.7	0	0
SE	.8	2.2	0	0
SSE	.8	2.0	0	0
S	.6	2.1	0	1
SSW	.6	2.4	1	1
SW	.6	2.0	1	3
WSW	.5	2.1	1	1
W	.6	1.8	2	2
WNW	.9	2.3	93	84
NW	.6	1.8	0	0
NNW	.7	2.0	1	3
N	.8	2.0	0	2

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.7	3.3	13	9
NE	1.6	2.9	28	19
ENE	1.5	2.9	17	14
E	.7	2.1	0	0
ESE	1.2	2.6	1	1
SE	1.1	2.9	0	0
SSE	1.1	2.8	0	0
S	1.2	3.1	5	5
SSW	1.0	2.5	0	0
SW	.6	1.8	0	0
WSW	.6	2.0	0	0
W	.7	2.0	0	0
WNW	1.0	2.1	2	2
NW	1.1	2.2	5	9
NNW	1.6	2.7	21	25
N	1.9	3.1	8	14

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.4	0	0
NE	1.4	2.6	1	1
ENE	1.6	2.7	2	3
E	.8	2.3	0	0
ESE	.7	1.5	0	0
SE	1.1	2.1	0	0
SSE	1.1	2.0	0	0
S	1.0	1.9	0	0
SSW	1.0	2.6	0	0
SW	1.0	2.2	0	0
WSW	.9	1.9	0	0
W	1.1	2.6	0	1
WNW	1.8	3.8	97	95
NW	.7	1.8	0	0
NNW	.8	1.8	0	0
N	.8	1.9	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.2	0	0
NE	1.0	2.1	0	0
ENE	.7	2.2	0	0
E	.9	2.2	0	0
ESE	.9	2.0	0	0
SE	.8	2.2	0	0
SSE	.9	2.0	0	0
S	.8	1.8	0	0
SSW	.8	2.1	0	0
SW	.5	2.5	0	0
WSW	.8	1.8	0	0
W	.9	2.7	2	2
WNW	1.7	3.4	95	89
NW	1.0	2.5	4	7
NNW	.7	2.0	0	1
N	.8	2.3	0	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.9	3.2	5	3
NE	1.3	2.6	2	2
ENE	.1	2.3	0	0
E	.5	2.1	0	0
ESE	1.7	3.5	3	3
SE	1.8	3.3	0	0
SSE	1.7	3.6	0	1
S	1.3	3.2	1	1
SSW	.7	2.3	0	0
SW	.6	2.0	0	0
WSW	1.0	2.5	0	0
W	1.1	3.4	2	2
WNW	1.7	3.1	51	44
NW	1.5	2.5	5	8
NNW	2.0	3.1	29	29
N	2.2	3.3	2	6

2000 FULL-BUILD PRE-MITIGATION

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.6	0	0
NE	1.8	3.2	2	2
ENE	1.8	3.1	2	3
E	.6	2.0	0	0
ESE	.9	1.8	0	0
SE	1.4	2.4	0	0
SSE	1.6	3.0	0	0
S	1.4	3.2	0	0
SSW	1.4	2.7	0	0
SW	1.3	2.9	0	2
WSW	1.2	2.7	0	0
W	1.6	3.6	9	9
WNW	2.0	4.4	82	76
NW	1.6	3.1	4	8
NNW	1.1	2.6	0	1
N	.6	2.1	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.2	0	0
NE	.9	2.1	0	0
ENE	.7	1.8	0	0
E	.7	1.9	0	0
ESE	1.1	2.2	0	0
SE	1.3	2.4	0	0
SSE	1.4	3.1	0	0
S	1.2	2.8	0	0
SSW	1.1	2.4	0	0
SW	.9	2.9	0	1
WSW	1.0	2.4	0	0
W	1.8	3.7	41	37
WNW	1.6	3.6	38	36
NW	1.7	2.9	21	25
NNW	.9	2.5	0	1
N	.7	2.1	0	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.2	3.7	5	3
NE	1.5	2.9	2	2
ENE	.6	2.2	0	0
E	.8	2.3	0	0
ESE	1.9	3.5	3	3
SE	1.6	3.2	0	0
SSE	1.7	3.7	0	0
S	.8	2.7	0	0
SSW	.6	1.7	0	0
SW	.4	1.4	0	0
WSW	.8	1.7	0	0
W	.7	2.0	0	0
WNW	2.0	3.2	43	37
NW	1.7	3.0	14	17
NNW	2.3	3.3	31	31
N	2.4	3.5	2	7

TABLE E-130

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.5	2.9	9	7
NE	1.5	3.0	23	18
ENE	1.4	3.1	14	13
E	1.0	2.6	0	0
ESE	1.8	3.9	50	46
SE	1.7	3.9	1	4
SSE	1.2	3.1	0	0
S	.4	2.3	0	0
SSW	.6	2.1	0	0
SW	.1	1.4	0	0
WSW	.1	1.8	0	0
W	.3	2.0	0	0
WNW	.6	1.7	0	0
NW	.7	2.2	0	1
NNW	1.0	2.2	3	8
N	1.2	2.2	0	3

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.4	8	5
NE	.4	2.0	0	0
ENE	.4	2.0	0	0
E	.5	1.9	0	0
ESE	.8	2.4	0	0
SE	.9	2.4	0	0
SSE	.7	2.0	0	0
S	.7	1.9	0	1
SSW	.8	2.0	0	1
SW	.5	1.4	0	0
WSW	.5	1.5	0	0
W	.8	1.9	12	10
WNW	.9	2.0	44	37
NW	.6	2.0	2	4
NNW	.7	1.6	4	8
N	1.4	2.3	31	34

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.2	9	9
NE	1.2	2.4	38	32
ENE	1.3	2.6	41	37
E	.9	2.2	3	3
ESE	.8	1.7	0	1
SE	.5	2.0	0	0
SSE	.6	1.7	0	0
S	.3	1.7	0	0
SSW	.3	1.7	0	0
SW	.3	1.2	0	0
WSW	.3	1.4	0	0
W	.4	1.9	0	0
WNW	.7	1.7	6	12
NW	.6	2.0	0	3
NNW	.3	1.4	0	0
N	.8	[illegible]	0	2

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.1	0	0
NE	1.0	3.0	3	4
ENE	1.7	3.1	41	41
E	2.0	3.2	57	55
ESE	.1	.4	0	0
SE	.1	1.0	0	0
SSE	.1	1.0	0	0
S	.1	.9	0	0
SSW	1.0	1.8	0	0
SW	.4	1.2	0	0
WSW	.1	1.4	0	0
W	.1	1.1	0	0
WNW	.1	1.0	0	0
NW	.1	1.1	0	0
NNW	.7	1.7	0	0
N	.7	1.5	0	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.2	0	0
NE	.7	2.5	0	0
ENE	1.4	2.8	10	11
E	1.7	3.0	24	20
ESE	2.0	3.1	65	63
SE	1.2	2.6	0	0
SSE	.9	2.3	0	0
S	1.0	2.5	0	0
SSW	1.4	2.5	1	4
SW	.5	1.4	0	0
WSW	.8	1.6	0	0
W	.6	1.6	0	0
WNW	.7	1.7	0	0
NW	.5	1.6	0	0
NNW	.6	1.6	0	0
N	1.2	2.1	0	2

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.8	0	0
NE	1.1	2.2	23	19
ENE	1.2	2.3	30	26
E	1.1	2.0	15	12
ESE	1.0	1.7	3	5
SE	.5	1.3	0	0
SSE	.5	1.5	0	0
S	.6	1.6	0	0
SSW	.7	1.5	0	0
SW	.3	1.2	0	0
WSW	.7	1.3	0	0
W	.8	1.6	5	7
WNW	.8	1.7	21	26
NW	.6	1.7	1	3
NNW	.5	1.3	0	0
N	.7	1.6	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.9	0	0
NE	1.1	2.8	3	3
ENE	1.7	3.1	37	34
E	1.9	3.2	45	39
ESE	1.5	2.8	14	20
SE	.7	1.8	0	0
SSE	.8	1.9	0	0
S	.8	1.9	0	0
SSW	.8	1.6	0	0
SW	.6	1.3	0	0
WSW	.4	1.4	0	0
W	.9	2.4	0	1
WNW	.9	2.2	1	3
NW	.5	1.6	0	0
NNW	.7	1.6	0	0
N	.7	1.6	0	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.2	0	0
NE	.9	2.3	0	0
ENE	1.6	2.8	17	16
E	2.0	3.4	39	31
ESE	1.9	3.1	42	41
SE	1.3	2.8	0	0
SSE	.8	2.7	0	0
S	1.2	2.8	0	1
SSW	1.1	2.2	0	0
SW	.4	1.4	0	0
WSW	.5	1.4	0	0
W	.8	2.3	0	0
WNW	.8	2.6	0	0
NW	.4	1.9	0	0
NNW	1.1	2.2	2	7
N	1.4	2.7	0	4

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.1	0	0
NE	1.1	2.2	13	11
ENE	1.3	2.7	23	20
E	1.2	2.0	10	7
ESE	1.2	1.9	7	9
SE	.1	2.3	0	0
SSE	.6	1.6	0	0
S	.8	1.8	0	0
SSW	.8	1.8	0	0
SW	.3	1.2	0	0
WSW	.2	1.3	0	0
W	1.1	2.0	27	28
WNW	1.0	2.2	21	24
NW	.5	2.0	0	0
NNW	.6	1.[illegible]	[illegible]	0
N	.8	1.7	0	0

TABLE E-131

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.5	2.9	4	3
NE	1.5	3.0	17	14
ENE	1.4	3.1	14	13
E	1.0	2.6	2	2
ESE	1.8	3.9	60	54
SE	1.7	3.9	2	5
SSE	1.2	3.1	0	1
S	.4	2.3	0	0
SSW	.6	2.1	0	0
SW	.1	1.4	0	0
WSW	.1	1.8	0	0
W	.3	2.0	0	0
WNW	.6	1.7	0	0
NW	.7	2.2	1	3
NNW	1.0	2.2	1	4
N	1.2	2.2	0	1

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.4	7	4
NE	.4	2.0	5	4
ENE	.4	2.0	1	1
E	.5	1.9	0	0
ESE	.8	2.4	11	10
SE	.9	2.4	0	1
SSE	.7	2.0	0	0
S	.7	1.9	0	0
SSW	.8	2.0	0	1
SW	.5	1.4	0	0
WSW	.5	1.5	0	0
W	.8	1.9	12	10
WNW	.9	2.0	38	32
NW	.6	2.0	8	11
NNW	.7	1.8	6	10
N	1.4	2.3	10	16

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.2	7	6
NE	1.2	2.4	33	26
ENE	1.3	2.6	39	33
E	.9	2.2	8	7
ESE	.8	1.7	0	1
SE	.5	2.0	0	0
SSE	.6	1.7	0	0
S	.3	1.7	0	0
SSW	.3	1.7	0	0
SW	.3	1.2	0	0
WSW	.3	1.4	0	0
W	.4	1.9	0	0
WNW	.7	1.7	4	7
NW	.6	2.0	6	13
NNW	.3	1.9	1	4
N	.8	2.0	0	3

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.1	0	0
NE	1.0	3.0	14	16
ENE	1.7	3.1	42	40
E	2.0	3.2	44	43
ESE	.1	.4	0	0
SE	.1	1.0	0	0
SSE	.1	1.0	0	0
S	.1	.9	0	0
SSW	1.0	1.8	0	0
SW	.4	1.2	0	0
WSW	.1	1.4	0	0
W	.1	1.1	0	0
WNW	.1	1.0	0	0
NW	.1	1.1	0	0
NNW	.7	1.7	0	2
N	.7	1.5	0	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.2	0	0
NE	.7	2.5	3	4
ENE	1.4	2.8	25	21
E	1.7	3.0	26	21
ESE	2.0	3.1	45	44
SE	1.2	2.6	0	0
SSE	.9	2.3	0	0
S	1.0	2.5	2	3
SSW	1.4	2.5	2	4
SW	.5	1.4	0	0
WSW	.8	1.6	0	0
W	.6	1.6	0	0
WNW	.7	1.7	0	1
NW	.5	1.6	0	0
NNW	.6	1.6	0	1
N	1.2	2.1	0	1

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.8	1	1
NE	1.1	2.2	28	22
ENE	1.2	2.3	29	26
E	1.1	2.0	11	9
ESE	1.0	1.7	1	2
SE	.5	1.3	0	0
SSE	.5	1.5	0	0
S	.6	1.6	0	0
SSW	.7	1.5	0	0
SW	.3	1.2	0	0
WSW	.7	1.3	0	0
W	.8	1.6	0	0
WNW	.8	1.7	27	32
NW	.6	1.7	2	7
NNW	.5	1.3	0	0
N	.7	1.6	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.9	0	0
NE	1.1	2.8	9	9
ENE	1.7	3.1	39	34
E	1.9	3.2	34	29
ESE	1.5	2.8	11	15
SE	.7	1.8	0	0
SSE	.8	1.9	0	0
S	.8	1.9	0	0
SSW	.8	1.6	0	0
SW	.6	1.3	0	0
WSW	.4	1.4	0	0
W	.9	2.4	2	4
WNW	.9	2.2	4	7
NW	.5	1.6	0	1
NNW	.7	1.6	0	1
N	.7	1.6	0	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.2	0	0
NE	.6	2.3	3	3
ENE	1.6	2.8	23	19
E	2.0	3.4	34	25
ESE	1.9	3.1	27	27
SE	1.3	2.8	0	0
SSE	.8	2.7	0	0
S	1.2	2.8	4	5
SSW	1.1	2.2	0	0
SW	.4	1.4	0	0
WSW	.5	1.4	0	0
W	.8	2.3	0	1
WNW	.8	2.0	0	0
NW	.4	1.9	0	0
NNW	1.1	2.2	7	14
N	1.4	2.7	1	5

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.1	1	1
NE	1.1	2.2	17	13
ENE	1.3	2.7	24	20
E	1.2	2.0	6	5
ESE	1.2	1.9	2	3
SE	.1	2.3	0	0
SSE	.6	1.6	0	0
S	.8	1.8	0	0
SSW	.8	1.8	0	0
SW	.3	1.2	0	0
WSW	.2	1.3	0	0
W	1.1	2.0	19	20
WNW	1.0	2.2	29	32
NW	.5	2.0	0	2
NNW	.6	1.7	1	3
N	.8	1.7	0	0

TABLE E-132

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.4	0	0
NE	2.0	3.2	7	5
ENE	2.5	3.8	19	16
E	2.1	3.8	5	3
ESE	2.0	3.6	1	2
SE	1.4	2.8	0	0
SSE	.7	2.1	0	0
S	.6	1.8	0	0
SSW	.6	1.8	0	0
SW	.5	1.4	0	0
WSW	.7	1.6	0	0
W	1.4	2.6	0	0
WNW	1.7	2.8	8	9
NW	2.2	3.2	49	48
NNW	2.0	2.9	11	17
N	.6	1.7	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.2	13	9
NE	.5	1.7	0	0
ENE	.3	1.6	0	0
E	.1	1.8	0	0
ESE	.6	1.4	0	0
SE	.3	1.9	0	0
SSE	.4	1.8	0	0
S	.1	1.5	0	0
SSW	.1	1.6	0	0
SW	.5	1.2	0	1
WSW	.3	1.4	0	0
W	.6	1.7	3	3
WNW	.7	2.1	44	41
NW	.7	2.2	33	34
NNW	.7	1.7	6	11
N	.5	1.9	0	0

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	1.8	0	0
NE	.1	1.5	0	0
ENE	.4	1.6	0	0
E	.6	1.8	0	0
ESE	.5	1.7	0	0
SE	.5	1.7	0	0
SSE	.1	1.7	0	0
S	.6	1.8	0	0
SSW	.6	1.7	0	0
SW	1.3	2.4	45	45
WSW	1.3	2.4	15	18
W	.8	1.8	1	0
WNW	.7	1.8	0	0
NW	.8	2.1	1	3
NNW	1.3	2.3	38	32
N	1.1	1.9	0	2

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.4	3.0	0	0
NE	2.2	3.7	9	8
ENE	2.6	4.2	21	18
E	2.8	4.1	19	14
ESE	2.8	4.0	23	23
SE	1.9	2.9	0	0
SSE	1.2	2.6	0	0
S	.7	1.7	0	0
SSW	.8	1.9	0	0
SW	.4	1.4	0	0
WSW	1.1	2.0	0	0
W	1.7	2.6	2	2
WNW	1.9	3.2	12	14
NW	1.9	3.0	13	18
NNW	1.6	2.7	1	3
N	.7	1.8	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.3	4	3
NE	.7	1.8	1	1
ENE	.6	1.6	0	0
E	.7	1.4	0	0
ESE	.5	1.3	0	0
SE	.6	1.2	0	0
SSE	.3	1.3	0	0
S	.5	1.2	0	0
SSW	.3	1.2	0	0
SW	.6	1.4	0	0
WSW	.6	1.3	0	0
W	.7	1.6	1	1
WNW	.6	2.1	0	0
NW	1.1	2.3	88	77
NNW	.8	2.1	3	7
N	1.1	2.4	4	10

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.2	0	0
NE	.6	1.8	0	0
ENE	1.2	2.2	1	1
E	.8	2.2	0	0
ESE	.6	1.9	0	0
SE	.6	1.8	0	0
SSE	.9	1.9	0	0
S	1.1	2.3	0	0
SSW	1.3	2.3	0	0
SW	1.9	3.3	78	74
WSW	1.4	2.7	3	3
W	1.2	2.3	2	1
WNW	.9	2.1	0	0
NW	1.0	2.4	1	2
NNW	1.5	2.9	16	18
N	1.1	2.6	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.7	0	0
NE	1.6	2.9	0	0
ENE	2.4	4.1	18	16
E	2.8	4.3	23	17
ESE	2.8	4.0	31	30
SE	1.6	2.9	0	0
SSE	.7	2.1	0	0
S	.8	1.8	0	0
SSW	.7	1.8	0	0
SW	.3	1.4	0	0
WSW	.4	1.5	0	0
W	1.6	3.1	1	2
WNW	1.9	3.2	20	23
NW	1.6	2.8	2	6
NNW	1.5	3.0	0	2
N	1.1	2.6	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.1	3	2
NE	.7	1.9	2	2
ENE	.6	1.8	0	0
E	.7	1.5	0	0
ESE	.7	1.6	0	0
SE	.4	1.3	0	0
SSE	.1	1.4	0	0
S	.5	1.4	0	0
SSW	.4	1.4	0	0
SW	.1	1.3	0	0
WSW	.1	1.4	0	0
W	.7	2.0	2	2
WNW	.9	2.2	63	52
NW	.7	2.2	7	10
NNW	.8	2.1	8	12
N	1.2	2.3	16	22

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.8	0	0
NE	1.0	2.2	1	1
ENE	1.5	2.8	26	19
E	.3	1.9	0	0
ESE	1.4	2.3	11	10
SE	1.2	2.3	0	0
SSE	1.1	2.2	0	0
S	1.2	2.3	3	3
SSW	1.5	2.3	9	8
SW	1.4	2.5	41	46
WSW	.9	1.8	0	0
W	1.0	2.1	4	4
WNW	.7	1.7	0	0
NW	.8	2.2	1	2
NNW	1.0	2.2	2	6
N	1.0	2.5	0	0

TABLE E-133

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.4	0	0
NE	2.0	3.2	10	8
ENE	2.5	3.8	21	17
E	2.1	3.8	9	6
ESE	2.0	3.6	3	4
SE	1.4	2.8	0	0
SSE	.7	2.1	0	0
S	.6	1.8	0	0
SSW	.6	1.8	0	0
SW	.5	1.4	0	0
WSW	.7	1.6	0	0
W	1.4	2.6	0	0
WNW	1.7	2.8	8	9
NW	2.2	3.2	40	41
NNW	2.0	2.9	9	14
N	.6	1.7	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.2	4	3
NE	.5	1.7	1	1
ENE	.3	1.6	0	0
E	.1	1.8	0	0
ESE	.6	1.4	0	0
SE	.3	1.9	0	0
SSE	.4	1.8	0	0
S	.1	1.5	0	0
SSW	.1	1.6	0	0
SW	.5	1.2	0	0
WSW	.3	1.4	0	0
W	.6	1.7	2	2
WNW	.7	2.1	39	36
NW	.7	2.2	52	49
NNW	.7	1.7	4	8
N	.5	1.9	0	1

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	1.8	0	0
NE	.1	1.5	0	0
ENE	.4	1.6	0	0
E	.6	1.8	0	0
ESE	.5	1.7	0	0
SE	.5	1.7	0	0
SSE	.1	1.7	0	0
S	.6	1.8	0	0
SSW	.6	1.7	0	0
SW	1.3	2.4	43	43
WSW	1.3	2.4	16	16
W	.8	1.8	2	1
WNW	.7	1.8	1	0
NW	.8	2.1	6	7
NNW	1.3	2.3	33	29
N	1.1	1.9	0	1

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.4	3.0	0	0
NE	2.2	3.7	14	11
ENE	2.6	4.2	23	19
E	2.8	4.1	18	13
ESE	2.8	4.0	16	16
SE	1.9	2.9	0	0
SSE	1.2	2.6	0	0
S	.7	1.7	0	0
SSW	.8	1.9	0	0
SW	.4	1.4	0	0
WSW	1.1	2.0	0	0
W	1.7	2.6	1	2
WNW	1.9	3.2	14	16
NW	1.9	3.0	13	19
NNW	1.6	2.7	1	4
N	.7	1.8	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.3	4	3
NE	.7	1.8	1	1
ENE	.6	1.6	0	0
E	.7	1.4	0	0
ESE	.5	1.3	0	0
SE	.6	1.2	0	0
SSE	.3	1.3	0	0
S	.5	1.2	0	0
SSW	.3	1.2	0	0
SW	.6	1.4	0	0
WSW	.6	1.3	0	0
W	.7	1.6	0	0
WNW	.6	2.1	9	10
NW	1.1	2.3	77	67
NNW	.8	2.1	7	12
N	1.1	2.4	2	7

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.2	0	0
NE	.6	1.8	0	0
ENE	1.2	2.2	1	1
E	.8	2.2	0	0
ESE	.6	1.9	0	0
SE	.6	1.8	0	0
SSE	.9	1.9	0	0
S	1.1	2.3	0	0
SSW	1.3	2.3	0	0
SW	1.9	3.3	54	54
WSW	1.4	2.7	5	5
W	1.2	2.3	6	4
WNW	.9	2.1	1	1
NW	1.0	2.4	8	10
NNW	1.5	2.9	26	25
N	1.1	2.6	0	1

2000 FULL-BUILD PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.7	0	0
NE	1.9	3.4	8	7
ENE	2.4	4.1	20	17
E	2.8	4.3	21	15
ESE	2.8	4.0	18	18
SE	1.6	2.9	0	0
SSE	.7	2.1	0	0
S	.8	1.8	0	0
SSW	.7	1.8	0	0
SW	.3	1.4	0	0
WSW	.4	1.5	0	0
W	1.6	3.1	4	4
WNW	1.9	3.2	22	23
NW	1.6	2.8	4	9
NNW	1.5	3.0	2	6
N	1.1	2.6	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.1	2	1
NE	.7	1.9	4	3
ENE	.6	1.8	1	2
E	.7	1.5	0	0
ESE	.7	1.6	0	0
SE	.4	1.3	0	0
SSE	.1	1.4	0	0
S	.5	1.4	0	0
SSW	.4	1.4	0	0
SW	.1	1.3	0	1
WSW	.1	1.4	0	0
W	.7	2.0	3	3
WNW	.9	2.2	53	45
NW	.7	2.2	21	22
NNW	.8	2.1	14	17
N	1.2	2.3	2	6

LOCATION 39

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.8	0	0
NE	1.0	2.2	5	3
ENE	1.5	2.8	30	21
E	.3	1.9	0	0
ESE	1.4	2.3	5	4
SE	1.2	2.3	0	0
SSE	1.1	2.2	0	0
S	1.2	2.3	2	2
SSW	1.5	2.3	3	3
SW	1.4	2.5	32	36
WSW	.9	1.8	0	0
W	1.0	2.1	7	5
WNW	.7	1.7	0	0
NW	.8	2.2	6	9
NNW	1.0	2.2	8	12
N	1.0	2.5	1	3

TABLE E-134

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.7	0	0
NE	1.0	2.0	1	1
ENE	1.2	2.5	3	4
E	1.2	2.5	2	2
ESE	1.6	2.6	15	15
SE	1.2	2.7	0	0
SSE	1.0	2.4	0	0
S	.9	2.5	0	0
SSW	.4	2.0	0	0
SW	.8	2.4	0	0
WSW	.9	2.2	0	0
W	.8	2.1	0	0
WNW	.9	2.2	1	1
NW	1.0	2.3	2	5
NNW	1.6	3.0	76	67
N	1.3	2.7	1	2

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.5	0	0
NE	1.1	2.0	1	1
ENE	1.5	2.5	11	10
E	1.6	2.9	10	8
ESE	2.0	3.0	45	37
SE	1.6	2.6	0	1
SSE	1.5	2.8	0	0
S	1.5	2.8	5	6
SSW	1.0	2.4	0	0
SW	1.3	2.8	7	13
WSW	1.1	2.7	0	1
W	.8	2.4	0	0
WNW	.8	2.5	0	0
NW	.8	2.3	0	1
NNW	1.4	2.6	21	25
N	1.2	2.3	0	1

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.8	0	0
NE	1.4	2.4	0	0
ENE	1.7	2.8	1	2
E	1.7	3.1	1	0
ESE	2.1	3.7	4	4
SE	1.5	3.2	0	0
SSE	1.0	2.4	0	0
S	1.0	2.4	0	0
SSW	.8	2.3	0	0
SW	1.7	3.6	2	5
WSW	2.1	3.6	6	7
W	2.1	3.5	27	23
WNW	2.0	3.7	39	34
NW	1.9	3.3	19	21
NNW	1.6	3.1	1	4
N	1.1	2.6	0	0

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.8	0	0
NE	1.0	2.4	1	1
ENE	1.5	2.7	16	15
E	1.3	3.1	3	3
ESE	1.0	2.2	0	0
SE	1.0	2.2	0	0
SSE	.8	2.4	0	0
S	.8	2.7	0	0
SSW	.6	2.0	0	0
SW	.7	2.3	0	0
WSW	.8	2.2	0	0
W	.8	2.3	0	0
WNW	.9	2.3	0	1
NW	1.0	2.3	6	11
NNW	1.6	2.8	74	67
N	1.1	2.4	0	1

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.9	0	0
NE	1.1	2.6	1	1
ENE	1.7	2.9	23	18
E	1.4	2.7	4	2
ESE	1.9	3.0	41	34
SE	1.7	2.7	0	1
SSE	1.4	2.7	0	0
S	1.5	2.9	8	8
SSW	1.1	2.4	0	0
SW	1.2	2.8	3	7
WSW	1.0	2.7	0	0
W	.8	2.6	0	0
WNW	.8	2.0	0	0
NW	.9	2.1	0	1
NNW	1.4	2.6	21	25
N	1.0	2.1	0	0

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.4	2.5	0	0
NE	1.3	2.7	0	0
ENE	1.8	3.3	1	2
E	1.4	3.1	0	0
ESE	1.7	3.0	0	0
SE	1.5	3.0	0	0
SSE	1.4	2.9	0	0
S	1.0	2.4	0	0
SSW	1.3	2.7	0	0
SW	1.5	3.5	0	1
WSW	1.8	3.2	0	1
W	2.1	3.6	11	10
WNW	2.2	3.7	43	39
NW	2.2	3.6	34	34
NNW	2.1	3.3	9	14
N	1.6	3.1	0	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.5	0	0
NE	.8	1.9	0	0
ENE	.1	1.8	0	0
E	.5	1.4	0	0
ESE	1.4	2.4	7	6
SE	.9	2.3	0	0
SSE	.8	1.8	0	0
S	1.1	2.6	1	1
SSW	1.2	2.2	0	1
SW	1.4	2.5	31	35
WSW	1.2	2.3	3	3
W	1.1	2.7	9	6
WNW	.7	2.0	0	0
NW	.7	1.9	0	0
NNW	1.4	2.8	44	37
N	1.5	2.7	5	10

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.6	2.9	2	1
NE	1.4	2.5	4	2
ENE	1.6	2.8	6	5
E	1.0	2.2	0	0
ESE	1.8	3.1	8	7
SE	1.3	2.3	0	0
SSE	1.5	2.6	0	0
S	1.9	3.1	11	9
SSW	1.6	2.7	1	1
SW	1.9	3.6	44	45
WSW	1.9	3.3	14	17
W	1.4	2.7	7	6
WNW	1.1	2.6	0	0
NW	.6	2.5	0	0
NNW	1.0	2.5	0	0
N	1.8	2.8	2	6

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.8	3.5	0	0
NE	2.1	3.4	7	5
ENE	1.5	2.7	0	1
E	.6	1.8	0	0
ESE	.8	2.3	0	0
SE	.8	1.8	0	0
SSE	1.0	2.0	0	0
S	.9	2.2	0	0
SSW	1.1	2.0	0	0
SW	.9	2.6	0	0
WSW	1.2	2.5	0	0
W	1.5	3.1	0	0
WNW	1.9	3.3	16	16
NW	1.9	3.4	51	48
NNW	2.3	3.6	26	20
N	1.8	3.0	0	0

TABLE E-135
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.7	0	0
NE	1.0	2.0	1	1
ENE	1.2	2.5	4	4
E	1.2	2.5	2	1
ESE	1.6	2.6	7	7
SE	1.2	2.7	0	0
SSE	1.0	2.4	0	0
S	.9	2.5	0	1
SSW	.4	2.0	0	0
SW	.8	2.4	1	5
WSW	.9	2.2	0	0
W	.8	2.1	0	0
WNW	.9	2.2	6	6
NW	1.0	2.3	10	13
NNW	1.6	3.0	67	56
N	1.3	2.7	1	5

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.5	0	0
NE	1.1	2.6	1	1
ENE	1.5	2.5	9	7
E	1.6	2.9	8	4
ESE	2.0	3.0	21	16
SE	1.6	2.6	0	0
SSE	1.5	2.8	0	0
S	1.5	2.8	6	6
SSW	1.0	2.4	0	0
SW	1.3	2.8	17	23
WSW	1.1	2.7	5	5
W	.8	2.4	1	1
WNW	.8	2.5	6	5
NW	.8	2.3	3	5
NNW	1.4	2.6	23	24
N	1.2	2.3	0	1

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.8	0	0
NE	1.4	2.4	0	0
ENE	1.7	2.8	1	1
E	1.7	3.1	1	1
ESE	2.1	3.7	4	4
SE	1.5	3.2	0	0
SSE	1.0	2.4	0	0
S	1.0	2.4	0	0
SSW	.8	2.3	0	0
SW	1.7	3.6	6	11
WSW	2.1	3.6	4	5
W	2.1	3.5	20	16
WNW	2.0	3.7	45	38
NW	1.9	3.3	17	19
NNW	1.6	3.1	2	5
N	1.1	2.6	0	0

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.8	0	0
NE	1.0	2.4	2	2
ENE	1.5	2.7	14	12
E	1.3	3.1	7	5
ESE	1.0	2.2	0	1
SE	1.0	2.2	0	0
SSE	.8	2.4	0	0
S	.8	2.7	1	1
SSW	.6	2.0	0	0
SW	.7	2.3	0	1
WSW	.8	2.2	0	0
W	.8	2.3	1	1
WNW	.9	2.3	7	8
NW	1.0	2.3	14	19
NNW	1.6	2.8	53	48
N	1.1	2.4	0	2

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.9	0	0
NE	1.1	2.6	4	3
ENE	1.7	2.9	18	14
E	1.4	2.7	6	3
ESE	1.9	3.0	19	16
SE	1.7	2.7	0	1
SSE	1.4	2.7	0	0
S	1.5	2.9	11	10
SSW	1.1	2.4	0	0
SW	1.2	2.6	10	16
WSW	1.0	2.7	2	2
W	.8	2.6	2	1
WNW	.8	2.0	2	2
NW	.9	2.1	2	4
NNW	1.4	2.6	24	26
N	1.0	2.1	0	0

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.4	2.5	0	0
NE	1.3	2.7	0	0
ENE	1.8	3.3	2	2
E	1.4	3.1	0	0
ESE	1.7	3.0	0	0
SE	1.5	3.0	0	0
SSE	1.4	2.9	0	0
S	1.0	2.4	0	0
SSW	1.3	2.7	0	0
SW	1.5	3.5	2	5
WSW	1.8	3.2	1	1
W	2.1	3.6	11	9
WNW	2.2	3.7	49	42
NW	2.2	3.6	27	27
NNW	2.1	3.3	9	13
N	1.6	3.1	0	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.0	1	1
NE	.7	1.9	0	2
ENE	1.4	2.8	57	47
E	1.5	2.7	2	6
ESE	1.4	2.4	3	3
SE	.9	2.3	0	0
SSE	.8	1.9	0	0
S	1.1	2.6	2	3
SSW	1.2	2.2	0	0
SW	1.4	2.5	19	25
WSW	1.2	2.3	2	2
W	1.1	2.7	13	11
WNW	.7	2.0	1	1
NW	.7	1.9	0	2
NNW	1.4	2.8	57	47
N	1.5	2.7	2	6

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.6	2.9	1	1
NE	1.4	2.5	4	3
ENE	1.6	2.8	6	5
E	1.0	2.2	0	0
ESE	1.8	3.1	8	6
SE	1.3	2.3	0	0
SSE	1.5	2.6	0	0
S	1.9	3.1	8	7
SSW	1.6	2.7	0	1
SW	1.9	3.6	43	44
WSW	1.9	3.3	10	12
W	1.4	2.7	10	8
WNW	1.1	2.6	5	4
NW	.6	2.2	0	1
NNW	1.0	2.7	3	6
N	1.8	2.8	1	3

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.8	3.5	1	1
NE	2.1	3.4	9	7
ENE	1.5	2.7	1	1
E	.6	1.8	0	0
ESE	.8	2.3	0	0
SE	.8	1.8	0	0
SSE	1.0	2.0	0	0
S	.9	2.2	0	0
SSW	1.1	2.0	0	0
SW	.9	2.6	0	0
WSW	1.2	2.5	0	0
W	1.5	3.1	1	2
WNW	1.9	3.3	20	19
NW	2.2	3.4	40	39
NNW	2.3	3.6	28	30
N	1.8	3.0	0	0

TABLE E-136
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 43

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.1	0	0
NE	.7	1.6	0	0
ENE	.7	1.9	0	0
E	.8	1.9	0	0
ESE	.5	1.4	0	0
SE	.4	1.8	0	0
SSE	.6	1.7	0	0
S	.6	1.6	0	0
SSW	.5	1.8	0	0
SW	.6	2.1	0	0
WSW	.9	2.4	0	0
W	1.1	2.6	2	2
WNW	1.3	3.1	22	21
NW	1.1	3.0	6	9
NNW	1.7	3.2	64	54
N	1.8	3.2	7	13

LOCATION 44

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	1.9	0	0
NE	.5	1.8	0	0
ENE	.5	1.6	0	0
E	.6	1.8	0	0
ESE	.1	1.5	0	0
SE	.4	1.8	0	0
SSE	.5	1.5	0	0
S	.5	1.6	0	0
SSW	.5	1.7	0	0
SW	.9	2.6	10	14
WSW	1.2	2.4	16	19
W	.8	2.2	4	3
WNW	.8	2.2	4	4
NW	1.0	2.5	29	26
NNW	1.1	2.5	37	33
N	.9	2.2	0	1

LOCATION 45

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.0	0	0
NE	.7	2.2	0	0
ENE	.8	2.0	0	0
E	.7	1.8	0	0
ESE	.4	1.8	0	0
SE	.6	2.2	0	0
SSE	.7	1.8	0	0
S	.8	1.8	0	0
SSW	.7	2.0	0	0
SW	1.6	3.2	42	45
WSW	1.1	2.9	0	0
W	1.0	2.4	1	0
WNW	1.3	3.1	43	35
NW	1.2	2.9	11	13
NNW	1.1	3.1	4	7
N	1.0	2.9	0	0

LOCATION 43

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.4	2.4	2	1
NE	.7	1.7	0	0
ENE	.7	1.5	0	0
E	.5	1.5	0	0
ESE	.8	1.7	0	0
SE	.1	1.5	0	0
SSE	.6	1.6	0	0
S	.6	1.5	0	0
SSW	.5	1.4	0	0
SW	.6	2.1	0	0
WSW	.9	2.2	0	0
W	.9	2.5	0	0
WNW	1.2	3.1	14	14
NW	1.2	3.3	13	17
NNW	1.6	3.1	63	53
N	1.8	3.0	8	14

LOCATION 44

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	1.9	0	0
NE	.5	1.5	0	0
ENE	.7	1.5	0	0
E	.6	1.6	0	0
ESE	.6	1.7	0	0
SE	.1	1.2	0	0
SSE	.6	1.7	0	0
S	.5	1.9	0	0
SSW	.3	1.5	0	0
SW	1.0	2.8	22	26
WSW	1.1	2.2	15	17
W	.6	2.1	3	2
WNW	.7	2.3	1	1
NW	.9	2.6	31	27
NNW	1.0	2.6	28	26
N	.8	2.1	0	0

LOCATION 45

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	1.9	0	0
NE	.6	1.5	0	0
ENE	.8	1.9	0	0
E	.7	2.0	0	0
ESE	.6	1.7	0	0
SE	.3	1.4	0	0
SSE	.8	2.3	0	0
S	.9	1.8	0	0
SSW	.7	2.0	0	0
SW	1.4	3.1	26	31
WSW	1.1	2.6	0	0
W	.9	2.4	0	0
WNW	1.3	3.3	39	32
NW	1.0	3.1	5	7
NNW	1.4	3.5	31	30
N	1.0	3.2	0	0

LOCATION 43

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.0	3.1	5	3
NE	1.6	2.6	4	3
ENE	1.0	2.1	0	0
E	.3	1.4	0	0
ESE	1.1	2.5	0	0
SE	.9	2.5	0	0
SSE	.7	3.5	0	0
S	.7	2.2	0	0
SSW	.4	1.7	0	0
SW	1.4	2.7	2	5
WSW	1.5	2.6	1	1
W	1.8	3.1	24	21
WNW	1.8	3.1	52	45
NW	1.4	2.7	7	10
NNW	1.4	2.9	3	6
N	1.9	3.2	2	6

LOCATION 44

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.2	3.6	32	19
NE	1.5	2.7	11	8
ENE	.6	1.6	0	0
E	.6	1.6	0	0
ESE	.7	2.0	0	0
SE	1.5	2.8	0	0
SSE	.9	2.2	0	0
S	1.2	2.5	0	0
SSW	.8	2.3	0	0
SW	1.3	2.6	6	11
WSW	1.3	2.8	5	7
W	1.1	2.7	2	2
WNW	1.1	2.6	3	3
NW	1.3	2.7	13	15
NNW	1.4	3.2	19	22
N	1.9	3.4	12	17

LOCATION 45

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.5	2.2	0	0
NE	.4	1.6	0	0
ENE	.6	1.8	0	0
E	.7	1.8	0	0
ESE	1.0	2.0	7	8
SE	.7	1.6	0	0
SSE	.7	1.6	0	0
S	.8	2.0	0	1
SSW	.5	1.7	0	0
SW	.5	2.3	0	0
WSW	1.0	2.6	11	16
W	.6	2.1	0	0
WNW	.6	2.3	1	1
NW	.6	2.5	0	2
NNW	1.2	2.7	79	66
N	.9	2.4	1	3

TABLE E-137

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PPE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 43

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.1	0	0
NE	.7	1.6	0	0
ENE	.7	1.9	0	0
E	.8	1.9	0	0
ESE	.5	1.4	0	0
SE	.4	1.8	0	0
SSE	.6	1.7	0	0
S	.6	1.6	0	0
SSW	.5	1.8	0	0
SW	.6	2.1	0	0
WSW	.9	2.4	0	0
W	1.1	2.6	2	2
WNW	1.3	3.1	43	37
NW	1.1	3.0	18	21
NNW	1.7	3.2	35	34
N	1.8	3.2	1	5

LOCATION 44

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	1.9	0	0
NE	.5	1.8	0	0
ENE	.5	1.6	0	0
E	.6	1.8	0	0
ESE	.1	1.5	0	0
SE	.4	1.8	0	0
SSE	.5	1.5	0	0
S	.5	1.6	0	0
SSW	.5	1.7	0	0
SW	.9	2.6	14	19
WSW	1.2	2.4	8	9
W	.8	2.2	6	4
WNW	.8	2.2	8	7
NW	1.0	2.5	42	36
NNW	1.1	2.5	22	23
N	.9	2.2	0	1

LOCATION 45

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.0	0	0
NE	.7	2.2	0	0
ENE	.8	2.0	0	0
E	.7	1.8	0	0
ESE	.4	1.8	0	0
SE	.6	2.2	0	0
SSE	.7	1.8	0	0
S	.8	1.8	0	0
SSW	.7	2.0	0	0
SW	1.6	3.2	34	38
WSW	1.1	2.9	1	1
W	1.0	2.4	1	1
WNW	1.3	3.1	27	22
NW	1.2	2.9	21	21
NNW	1.1	3.1	15	17
N	1.0	2.9	0	1

LOCATION 43

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.4	2.4	0	0
NE	.7	1.7	0	0
ENE	.7	1.5	0	0
E	.5	1.5	0	0
ESE	.8	1.7	0	0
SE	.1	1.5	0	0
SSE	.6	1.6	0	0
S	.6	1.5	0	0
SSW	.5	1.4	0	0
SW	.6	2.1	0	0
WSW	.9	2.2	0	0
W	.9	2.5	1	1
WNW	1.2	3.1	40	36
NW	1.2	3.3	28	29
NNW	1.6	3.1	30	31
N	1.8	3.0	1	4

LOCATION 44

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	1.9	0	0
NE	.5	1.5	0	0
ENE	.7	1.5	0	0
E	.6	1.8	0	0
ESE	.6	1.7	0	0
SE	.1	1.2	0	0
SSE	.6	1.7	0	0
S	.5	1.9	0	0
SSW	.3	1.5	0	0
SW	1.0	2.8	19	25
WSW	1.1	2.2	5	5
W	.8	2.1	4	3
WNW	.7	2.3	12	10
NW	.9	2.6	36	32
NNW	1.0	2.6	24	24
N	.8	2.1	0	0

LOCATION 45

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	1.9	0	0
NE	.6	1.5	0	0
ENE	.8	1.9	0	0
E	.7	2.0	0	0
ESE	.6	1.7	0	0
SE	.3	1.4	0	0
SSE	.8	2.3	0	0
S	.9	1.8	0	0
SSW	.7	2.0	0	0
SW	1.4	3.1	15	21
WSW	1.1	2.6	0	0
W	.9	2.4	0	0
WNW	1.3	3.3	34	28
NW	1.0	3.1	15	17
NNW	1.4	3.5	35	33
N	1.0	3.2	0	1

LOCATION 43

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.0	3.1	3	2
NE	1.6	2.6	3	2
ENE	1.0	2.1	0	0
E	.3	1.4	0	0
ESE	1.1	2.5	0	0
SE	.9	2.5	0	0
SSE	.7	3.5	0	0
S	.7	2.2	0	0
SSW	.4	1.7	0	0
SW	1.4	2.7	3	7
WSW	1.5	2.6	1	1
W	1.8	3.1	21	17
WNW	1.8	3.1	47	40
NW	1.4	2.7	14	16
NNW	1.4	2.9	6	10
N	1.9	3.2	1	5

LOCATION 44

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.2	3.6	17	10
NE	1.5	2.7	7	5
ENE	.6	1.6	0	0
E	.6	1.6	0	0
ESE	.7	2.0	0	0
SE	1.5	2.8	0	0
SSE	.9	2.2	0	0
S	1.2	2.5	0	0
SSW	.8	2.3	0	0
SW	1.3	2.6	6	11
WSW	1.3	2.8	2	2
W	1.1	2.7	3	2
WNW	1.1	2.6	7	7
NW	1.3	2.7	16	18
NNW	1.4	3.2	34	32
N	1.9	3.4	7	12

LOCATION 45

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.5	2.2	0	0
NE	.4	1.6	0	0
ENE	.6	1.8	0	0
E	.7	1.8	0	0
ESE	1.0	2.0	1	1
SE	.7	1.6	0	0
SSE	.7	1.6	0	0
S	.8	2.0	0	0
SSW	.5	1.7	0	0
SW	.5	2.3	2	6
WSW	1.0	2.6	7	9
W	.6	2.1	2	2
WNW	.6	2.3	13	12
NW	.6	2.5	14	17
NNW	1.2	2.7	61	51
N	.9	2.4	0	1

TABLE E-138

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 46

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.8	0	0
NE	.1	1.6	0	0
ENE	.9	2.0	0	0
E	.9	1.9	0	0
ESE	.7	1.8	0	0
SE	.8	2.1	0	0
SSE	.8	2.0	0	0
S	.8	2.1	0	0
SSW	.7	2.1	0	0
SW	1.7	3.2	75	68
WSW	1.7	3.4	26	31
W	.4	2.0	0	0
WNW	.9	2.6	1	1
NW	.6	2.0	0	0
NNW	.8	2.0	0	0
N	.9	1.9	0	0

LOCATION 47

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.5	2.5	2	1
NE	1.0	2.0	0	0
ENE	1.2	2.1	1	1
E	1.0	2.4	0	0
ESE	1.0	2.2	0	0
SE	1.0	2.2	0	0
SSE	1.2	2.5	0	0
S	1.2	2.5	0	0
SSW	1.1	2.4	0	0
SW	1.9	3.0	60	57
WSW	1.7	3.0	11	13
W	.8	2.5	0	0
WNW	.8	1.8	0	0
NW	1.0	2.2	0	1
NNW	1.6	2.7	25	24
N	1.6	2.6	1	3

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.8	0	0
NE	.5	1.6	0	0
ENE	.5	1.5	0	0
E	.6	1.8	0	0
ESE	1.0	2.0	3	3
SE	.8	2.0	0	0
SSE	.9	2.2	0	0
S	1.1	2.5	10	8
SSW	1.2	2.6	13	10
SW	1.2	2.2	56	56
WSW	1.1	2.3	18	22
W	.4	1.7	0	0
WNW	.4	1.6	0	0
NW	.1	1.7	0	0
NNW	.7	1.8	0	2
N	.5	1.9	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 46

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.1	1	1
NE	.7	1.6	0	0
ENE	.6	2.0	0	0
E	.9	1.8	0	0
ESE	.9	2.1	0	0
SE	.8	2.2	0	0
SSE	1.1	2.4	0	0
S	1.0	2.2	0	0
SSW	.7	2.0	0	0
SW	1.4	2.9	50	43
WSW	1.7	3.3	49	55
W	.6	2.1	0	0
WNW	.8	2.6	0	0
NW	.6	2.1	0	0
NNW	.7	1.9	0	0
N	.9	2.0	0	0

LOCATION 47

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.4	2.2	2	1
NE	1.0	2.3	0	0
ENE	.7	1.6	0	0
E	.9	1.8	0	0
ESE	.8	1.9	0	0
SE	.8	2.2	0	0
SSE	1.5	2.8	0	1
S	1.6	3.0	11	9
SSW	1.4	2.8	2	2
SW	1.7	3.0	65	62
WSW	1.2	3.0	2	2
W	.4	1.8	0	0
WNW	.5	1.6	0	0
NW	1.0	1.9	2	3
NNW	1.3	2.5	15	17
N	1.3	2.2	0	2

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.5	7	4
NE	1.1	2.2	8	6
ENE	.6	1.8	0	0
E	.8	2.3	0	0
ESE	1.4	2.6	20	17
SE	1.1	2.2	0	0
SSE	1.1	2.4	0	0
S	1.4	2.9	21	18
SSW	1.5	2.8	19	15
SW	1.2	2.7	22	30
WSW	.8	2.3	0	0
W	.1	1.6	0	0
WNW	.4	2.0	0	0
NW	.6	1.7	0	0
NNW	.9	1.9	2	5
N	1.1	2.2	1	3

2000 FULL-BUILD PRE-MITIGATION

LOCATION 46

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.4	0	0
NE	.8	2.0	0	0
ENE	.1	1.7	0	0
E	.6	1.7	0	0
ESE	.9	2.1	0	0
SE	.8	1.8	0	0
SSE	.6	1.8	0	0
S	1.0	3.2	0	1
SSW	.8	2.5	0	0
SW	.9	2.4	1	5
WSW	.9	2.3	0	0
W	.6	2.0	0	0
WNW	.5	1.7	0	0
NW	.9	2.3	3	7
NNW	1.6	2.9	96	84
N	1.1	2.9	0	2

LOCATION 47

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.7	2.7	10	8
NE	1.1	2.1	1	1
ENE	.1	1.9	0	0
E	.7	1.7	0	0
ESE	.6	1.5	0	0
SE	.5	1.8	0	0
SSE	.8	2.0	0	0
S	1.0	2.0	0	0
SSW	1.0	3.7	0	0
SW	1.1	2.4	1	5
WSW	1.0	2.2	0	0
W	.8	2.2	0	0
WNW	.6	1.7	0	0
NW	.9	1.9	0	1
NNW	1.7	3.5	84	74
N	1.7	2.6	4	11

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.4	2.6	7	4
NE	.5	1.9	0	0
ENE	.5	1.6	0	0
E	.8	2.1	0	0
ESE	1.0	2.4	0	0
SE	.9	2.2	0	0
SSE	1.2	2.6	0	0
S	1.1	2.9	2	2
SSW	1.3	2.7	2	3
SW	1.3	2.6	24	30
WSW	1.0	2.5	1	1
W	.6	1.6	0	0
WNW	.5	2.0	0	0
NW	.7	1.8	0	1
NNW	1.4	2.8	59	48
N	1.5	2.6	6	11

TABLE E-139

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 46

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.8	0	0
NE	.1	1.6	0	0
ENE	.9	2.0	0	0
E	.9	1.9	0	0
ESE	.7	1.8	0	0
SE	.8	2.1	0	0
SSE	.8	2.0	0	0
S	.8	2.1	0	0
SSW	.7	2.1	0	0
SW	1.7	3.2	62	58
WSW	1.7	3.4	29	34
W	.4	2.0	0	0
WNW	.9	2.6	9	7
NW	.6	2.0	0	0
NNW	.8	2.0	0	1
N	.9	1.9	0	0

LOCATION 47

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.5	2.5	1	0
NE	1.0	2.0	0	0
ENE	1.2	2.1	1	1
E	1.0	2.4	0	0
ESE	1.0	2.2	0	0
SE	1.0	2.2	0	0
SSE	1.2	2.5	0	0
S	1.2	2.5	1	1
SSW	1.1	2.4	0	0
SW	1.9	3.0	55	52
WSW	1.7	3.0	18	21
W	.8	2.5	0	0
WNW	.8	1.8	0	0
NW	1.0	2.2	2	3
NNW	1.6	2.7	22	21
N	1.6	2.6	0	2

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.8	0	0
NE	.5	1.6	0	0
ENE	.5	1.5	0	0
E	.6	1.8	0	0
ESE	1.0	2.0	2	2
SE	.8	2.0	0	0
SSE	.9	2.2	0	0
S	1.1	2.5	18	14
SSW	1.2	2.6	10	8
SW	1.2	2.2	49	49
WSW	1.1	2.3	19	22
W	.4	1.7	0	0
WNW	.4	1.6	0	0
NW	.1	1.7	0	0
NNW	.7	1.8	2	4
N	.5	1.9	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 46

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.1	0	0
NE	.7	1.6	0	0
ENE	.6	2.0	0	0
E	.9	1.8	0	0
ESE	.9	2.1	0	0
SE	.8	2.2	0	0
SSE	1.1	2.4	0	0
S	1.0	2.2	0	0
SSW	.7	2.0	0	0
SW	1.4	2.9	45	43
WSW	1.7	3.3	36	42
W	.6	2.1	0	0
WNW	.8	2.6	18	12
NW	.6	2.1	0	1
NNW	.7	1.9	0	1
N	.9	2.0	0	0

LOCATION 47

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.4	2.2	0	0
NE	1.0	2.3	1	0
ENE	.7	1.6	0	0
E	.9	1.8	0	0
ESE	.8	1.9	0	0
SE	.8	2.2	0	0
SSE	1.5	2.8	0	1
S	1.6	3.0	9	7
SSW	1.4	2.8	2	2
SW	1.7	3.0	59	55
WSW	1.2	3.0	17	19
W	.4	1.8	0	0
WNW	.5	1.6	0	0
NW	1.0	1.9	2	3
NNW	1.3	2.5	9	12
N	1.3	2.2	0	1

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.5	4	3
NE	1.1	2.2	6	4
ENE	.6	1.8	0	1
E	.8	2.3	2	1
ESE	1.4	2.6	14	11
SE	1.1	2.2	0	0
SSE	1.1	2.4	0	1
S	1.4	2.9	21	18
SSW	1.5	2.8	11	9
SW	1.2	2.7	35	40
WSW	.8	2.3	2	2
W	.1	1.6	0	0
WNW	.4	2.0	0	0
NW	.6	1.7	0	1
NNW	.9	1.9	3	7
N	1.1	2.2	1	3

2000 FULL-BUILD PRE-MITIGATION

LOCATION 46

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.4	1	1
NE	.8	2.0	1	1
ENE	.1	1.7	0	0
E	.6	1.7	0	0
ESE	.9	2.1	0	0
SE	.8	1.8	0	0
SSE	.6	1.8	0	0
S	1.0	3.2	7	7
SSW	.8	2.5	0	0
SW	.9	2.4	3	8
WSW	.9	2.3	0	1
W	.6	2.0	0	0
WNW	.5	1.7	0	0
NW	.9	2.3	12	16
NNW	1.6	2.9	74	61
N	1.1	2.9	1	5

LOCATION 47

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.7	2.7	5	4
NE	1.1	2.1	2	2
ENE	.1	1.9	0	0
E	.7	1.7	0	0
ESE	.6	1.5	0	0
SE	.5	1.8	0	0
SSE	.8	2.0	0	0
S	1.0	2.0	0	0
SSW	1.0	3.7	0	1
SW	1.1	2.4	5	12
WSW	1.0	2.2	0	0
W	.8	2.2	1	1
WNW	.6	1.7	0	0
NW	.9	1.9	1	2
NNW	1.7	3.2	85	71
N	1.7	2.6	2	6

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.4	2.6	3	2
NE	.5	1.9	0	0
ENE	.5	1.6	0	0
E	.8	2.1	1	0
ESE	1.0	2.4	1	1
SE	.9	2.2	0	0
SSE	1.2	2.6	0	0
S	1.1	2.9	6	5
SSW	1.3	2.7	2	3
SW	1.3	2.6	26	31
WSW	1.0	2.5	4	4
W	.6	1.8	0	0
WNW	.5	2.0	0	0
NW	.7	1.8	1	3
NNW	1.4	2.8	53	43
N	1.5	2.6	2	5

TABLE E-140

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.2	0	0
NE	.5	2.0	0	0
ENE	.8	2.0	0	0
E	.7	2.1	0	0
ESE	1.5	2.8	14	9
SE	1.0	2.4	0	0
SSE	1.1	2.8	0	0
S	1.3	3.0	4	3
SSW	1.5	2.9	5	4
SW	1.5	2.8	45	43
WSW	1.7	3.1	32	38
W	.7	2.0	0	0
WNW	.5	1.8	0	0
NW	.8	2.3	0	1
NNW	.8	2.5	0	0
N	.9	2.3	0	0

LOCATION 50

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.0	0	0
NE	.7	2.1	0	0
ENE	1.2	2.8	23	17
E	.7	2.2	0	0
ESE	1.0	2.6	2	2
SE	.7	2.2	0	0
SSE	.9	2.4	0	0
S	1.0	2.3	4	4
SSW	1.2	2.3	7	7
SW	1.1	2.6	53	55
WSW	.9	2.6	2	2
W	.7	1.6	0	0
WNW	.7	2.3	3	3
NW	.7	2.2	1	2
NNW	.8	2.2	3	6
N	.7	1.8	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.3	0	0
NE	1.0	2.5	0	0
ENE	1.0	2.7	0	0
E	1.6	3.1	4	2
ESE	2.0	3.4	23	16
SE	1.3	2.5	0	0
SSE	1.2	2.5	0	0
S	1.2	2.5	0	0
SSW	1.2	2.6	0	0
SW	1.8	2.9	35	35
WSW	2.1	3.6	30	36
W	.9	2.0	0	0
WNW	.8	2.0	0	0
NW	1.1	2.4	1	1
NNW	1.4	2.7	7	10
N	1.4	2.6	0	1

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.3	0	0
NE	.8	1.9	0	0
ENE	.6	2.0	0	0
E	.6	2.0	0	0
ESE	1.8	3.1	58	44
SE	1.2	2.3	0	0
SSE	1.2	2.7	0	0
S	1.4	3.2	15	13
SSW	1.4	2.8	5	5
SW	1.1	2.5	8	14
WSW	1.2	2.8	6	7
W	.6	1.8	0	0
WNW	.6	2.2	0	0
NW	.9	2.2	4	7
NNW	1.0	2.8	5	9
N	1.0	2.1	0	1

LOCATION 50

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.3	0	0
NE	.9	2.3	2	1
ENE	.9	2.4	3	2
E	.7	1.8	0	0
ESE	1.2	2.6	5	4
SE	.9	2.1	0	0
SSE	.9	2.3	0	0
S	1.1	2.6	5	4
SSW	1.2	2.1	2	3
SW	1.3	2.3	48	48
WSW	1.0	2.0	1	1
W	.7	1.8	0	0
WNW	.8	2.2	5	4
NW	1.0	2.1	18	18
NNW	1.0	2.4	9	12
N	.8	2.2	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.3	2.5	0	0
NE	.8	2.2	0	0
ENE	1.0	2.6	0	0
E	1.6	3.0	2	1
ESE	2.4	3.8	40	27
SE	1.3	2.3	0	0
SSE	1.2	2.5	0	0
S	1.3	2.6	0	0
SSW	1.2	2.6	0	0
SW	1.8	2.9	19	23
WSW	2.2	3.5	30	37
W	.9	2.2	0	0
WNW	1.2	2.6	1	0
NW	1.4	2.5	4	6
NNW	1.5	2.6	4	6
N	1.4	2.7	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.2	0	0
NE	.5	1.8	0	0
ENE	.5	1.6	0	0
E	.7	1.7	0	0
ESE	1.4	2.9	5	4
SE	1.2	2.3	0	0
SSE	1.4	2.7	0	1
S	1.4	3.1	6	5
SSW	1.5	3.0	6	6
SW	1.2	2.7	11	16
WSW	1.2	2.9	3	3
W	.7	2.0	0	0
WNW	.8	2.3	0	0
NW	1.2	2.6	22	22
NNW	1.5	2.8	46	39
N	1.3	2.7	1	3

LOCATION 50

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.1	0	0
NE	.7	1.7	0	0
ENE	.7	2.0	0	0
E	.8	1.8	0	0
ESE	1.0	2.6	1	1
SE	1.1	2.4	0	0
SSE	1.0	2.3	0	0
S	1.3	2.6	19	15
SSW	1.2	2.1	2	3
SW	1.1	2.5	27	32
WSW	1.0	2.0	2	2
W	.9	1.9	6	5
WNW	1.0	2.3	19	16
NW	.7	2.2	0	1
NNW	1.1	2.4	24	25
N	.9	2.1	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.0	2.2	0	0
NE	1.0	2.2	0	0
ENE	.8	1.9	0	0
E	1.3	2.8	1	1
ESE	2.1	3.5	40	27
SE	1.4	2.5	0	0
SSE	1.3	2.5	0	0
S	1.3	2.7	0	0
SSW	1.0	2.3	0	0
SW	1.5	2.8	18	22
WSW	1.9	3.4	25	31
W	1.2	2.4	2	2
WNW	1.2	2.3	7	5
NW	1.1	2.2	2	3
NNW	1.3	2.6	4	7
N	1.3	2.5	0	1

TABLE E-141

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.2	0	0
NE	.5	2.0	0	0
ENE	.8	2.0	0	0
E	.7	2.1	0	0
ESE	1.5	2.8	10	7
SE	1.0	2.4	0	0
SSE	1.1	2.8	0	0
S	1.3	3.0	14	10
SSW	1.5	2.9	4	3
SW	1.5	2.8	39	39
WSW	1.7	3.1	25	29
W	.7	2.0	0	0
WNW	.5	1.8	0	0
NW	.8	2.3	3	5
NNW	.8	2.5	4	6
N	.9	2.3	0	0

LOCATION 50

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.0	0	0
NE	.7	2.1	2	1
ENE	1.2	2.8	21	15
E	.7	2.2	0	0
ESE	1.0	2.6	5	5
SE	.7	2.2	0	0
SSE	.9	2.4	0	0
S	1.0	2.3	4	3
SSW	1.2	2.3	0	1
SW	1.1	2.6	38	41
WSW	.9	2.6	5	5
W	.7	1.6	0	0
WNW	.7	2.3	10	8
NW	.7	2.2	6	8
NNW	.8	2.2	7	11
N	.7	1.8	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.3	0	0
NE	1.0	2.5	1	1
ENE	1.0	2.7	2	2
E	1.6	3.1	7	4
ESE	2.0	3.4	20	13
SE	1.3	2.5	0	0
SSE	1.2	2.5	0	0
S	1.2	2.5	0	0
SSW	1.2	2.6	0	0
SW	1.8	2.9	26	28
WSW	2.1	3.6	31	36
W	.9	2.0	0	0
WNW	.8	2.0	0	0
NW	1.1	2.4	2	4
NNW	1.4	2.7	10	11
N	1.4	2.6	0	1

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.3	0	0
NE	.8	1.9	0	0
ENE	.6	2.0	0	0
E	.6	2.0	0	0
ESE	1.8	3.1	30	22
SE	1.2	2.3	0	0
SSE	1.2	2.7	0	0
S	1.4	3.2	19	15
SSW	1.4	2.8	3	4
SW	1.1	2.5	14	19
WSW	1.2	2.8	10	12
W	.6	1.8	0	0
WNW	.6	2.2	1	1
NW	.9	2.2	5	7
NNW	1.0	2.8	17	19
N	1.0	2.1	0	0

LOCATION 50

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.3	1	0
NE	.9	2.3	6	4
ENE	.9	2.4	6	5
E	.7	1.8	0	0
ESE	1.2	2.6	8	7
SE	.9	2.1	0	0
SSE	.9	2.3	0	0
S	1.1	2.6	9	7
SSW	1.2	2.1	1	1
SW	1.3	2.3	27	31
WSW	1.0	2.0	1	1
W	.7	1.8	0	0
WNW	.8	2.2	12	9
NW	1.0	2.1	11	13
NNW	1.0	2.4	18	20
N	.8	2.2	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.3	2.5	0	0
NE	.8	2.2	0	0
ENE	1.0	2.6	1	1
E	1.6	3.0	5	2
ESE	2.4	3.8	34	23
SE	1.3	2.3	0	0
SSE	1.2	2.2	0	0
S	1.3	2.6	0	0
SSW	1.2	2.6	0	0
SW	1.8	2.9	17	21
WSW	2.2	3.5	28	34
W	.9	2.2	0	0
WNW	1.2	2.6	3	2
NW	1.4	2.5	6	7
NNW	1.5	2.6	5	8
N	1.4	2.7	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.2	0	0
NE	.5	1.8	0	0
ENE	.5	1.6	0	0
E	.7	1.7	0	0
ESE	1.4	2.9	5	4
SE	1.2	2.3	0	0
SSE	1.4	2.7	0	0
S	1.4	3.1	8	6
SSW	1.5	3.0	5	5
SW	1.2	2.7	14	18
WSW	1.2	2.9	6	7
W	.7	2.0	0	0
WNW	.8	2.3	4	4
NW	1.2	2.6	32	29
NNW	1.5	2.8	25	25
N	1.3	2.7	0	1

LOCATION 50

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.1	0	0
NE	.7	1.7	0	0
ENE	.7	2.0	1	2
E	.8	1.8	0	0
ESE	1.0	2.6	4	4
SE	1.1	2.4	0	0
SSE	1.0	2.3	0	0
S	1.3	2.6	13	11
SSW	1.2	2.1	0	1
SW	1.1	2.5	18	24
WSW	1.0	2.0	2	3
W	.9	1.9	4	3
WNW	1.0	2.3	29	23
NW	.7	2.2	6	9
NNW	1.1	2.4	21	22
N	.9	2.1	0	1

LOCATION 51

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.0	2.2	0	0
NE	1.0	2.2	1	0
ENE	.8	1.9	0	0
E	1.3	2.8	3	2
ESE	2.1	3.5	27	19
SE	1.4	2.5	0	0
SSE	1.3	2.5	0	0
S	1.3	2.7	1	1
SSW	1.0	2.3	0	0
SW	1.5	2.8	20	23
WSW	1.9	3.4	26	31
W	1.2	2.4	2	2
WNW	1.2	2.3	8	6
NW	1.1	2.2	4	5
NNW	1.3	2.6	7	10
N	1.3	2.5	0	1

TABLE E-142

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.4	0	0
NE	.5	2.1	0	0
ENE	.7	2.1	0	0
E	.8	2.0	0	0
ESE	.5	1.4	0	0
SE	.4	1.5	0	0
SSE	.6	1.7	0	0
S	.5	1.7	0	0
SSW	.4	1.9	0	0
SW	2.2	3.9	72	69
WSW	1.3	3.1	0	0
W	.7	2.4	0	0
WNW	1.2	3.0	1	1
NW	1.3	2.9	4	6
NNW	1.8	3.2	22	23
N	1.5	2.9	0	1

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	2.6	0	0
NE	.1	1.9	0	0
ENE	.6	2.2	0	0
E	.9	2.3	0	0
ESE	1.2	2.4	0	0
SE	1.1	2.2	0	0
SSE	1.5	3.0	0	0
S	1.5	3.1	6	3
SSW	1.6	3.0	4	3
SW	1.4	3.2	19	18
WSW	2.1	3.5	64	70
W	.7	2.1	0	0
WNW	.6	2.9	0	0
NW	1.1	3.5	6	5
NNW	.1	2.4	0	0
N	.1	2.0	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	1.9	0	0
NE	.6	1.7	0	0
ENE	.8	2.1	0	0
E	.7	2.0	0	0
ESE	.9	1.9	0	0
SE	1.0	2.1	0	0
SSE	1.2	2.6	0	0
S	1.2	2.7	1	1
SSW	1.6	3.1	8	7
SW	1.6	3.3	53	54
WSW	.9	2.4	0	0
W	1.3	2.8	24	19
WNW	.8	2.2	0	0
NW	1.1	2.4	13	15
NNW	1.0	2.3	1	2
N	1.1	2.2	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.4	0	0
NE	.5	1.7	0	0
ENE	.8	2.0	0	0
E	.6	2.0	0	0
ESE	.5	1.4	0	0
SE	.4	1.6	0	0
SSE	.6	1.7	0	0
S	.6	1.7	0	0
SSW	.4	1.8	0	0
SW	2.0	3.4	52	52
WSW	1.3	3.0	0	0
W	.7	2.5	0	0
WNW	1.4	3.2	8	6
NW	1.4	3.0	8	10
NNW	1.8	3.4	32	30
N	1.6	2.9	0	1

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	2.3	0	0
NE	.5	1.7	0	0
ENE	.6	1.7	0	0
E	.9	2.0	0	0
ESE	1.2	2.2	1	1
SE	1.1	2.1	0	0
SSE	1.4	2.5	0	0
S	1.7	3.6	21	14
SSW	1.6	2.8	5	4
SW	1.0	3.0	1	2
WSW	1.9	3.2	49	59
W	.5	2.1	0	0
WNW	.8	3.0	0	0
NW	1.2	3.4	23	19
NNW	.6	2.5	0	0
N	.2	2.0	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.1	0	0
NE	.5	1.7	0	0
ENE	.7	2.1	0	0
E	.7	1.8	0	0
ESE	.9	2.0	0	0
SE	.8	2.1	0	0
SSE	1.1	2.7	0	0
S	1.2	2.9	2	2
SSW	1.6	3.3	11	9
SW	1.5	3.1	58	59
WSW	.7	2.5	0	0
W	1.3	2.6	23	18
WNW	.9	2.8	1	1
NW	1.0	2.4	4	6
NNW	1.0	2.3	1	4
N	1.1	2.1	0	1

2000 FULL-BUILD PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.0	3.7	20	12
NE	1.3	3.0	5	4
ENE	.6	1.7	0	0
E	.8	2.3	0	0
ESE	.6	2.0	0	0
SE	.8	1.9	0	0
SSE	.5	1.4	0	0
S	.7	2.0	0	0
SSW	.5	1.5	0	0
SW	1.7	3.2	50	52
WSW	1.3	2.9	3	3
W	.9	2.3	0	0
WNW	1.2	2.9	8	7
NW	1.1	2.6	4	7
NNW	1.3	3.3	6	9
N	1.6	3.4	3	6

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.3	1.6	0	0
NE	.5	1.4	0	0
ENE	.5	1.6	0	0
E	.8	2.0	0	0
ESE	1.0	2.0	0	0
SE	.6	1.6	0	0
SSE	1.1	2.3	0	0
S	1.2	3.0	1	1
SSW	1.3	2.8	0	1
SW	1.1	3.5	1	3
WSW	1.9	3.4	42	50
W	.5	2.1	0	0
WNW	.6	3.0	0	0
NW	1.2	3.5	16	15
NNW	1.5	3.6	39	31
N	.6	2.5	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.6	0	0
NE	.5	1.6	0	0
ENE	.8	1.9	0	0
E	.5	2.3	0	0
ESE	.7	1.8	0	0
SE	.8	2.0	0	0
SSE	1.0	2.5	0	0
S	1.3	2.8	2	2
SSW	1.5	3.2	4	5
SW	1.5	3.1	51	53
WSW	.9	2.5	0	0
W	1.4	2.8	37	30
WNW	.8	2.2	0	0
NW	1.0	2.2	5	7
NNW	1.0	2.2	1	3
N	.7	1.8	0	0

TABLE E-143

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.4	0	0
NE	.5	2.1	0	0
ENE	.7	2.1	0	0
E	.8	2.0	0	0
ESE	.5	1.4	0	0
SE	.4	1.5	0	0
SSE	.6	1.7	0	0
S	.5	1.7	0	0
SSW	.4	1.9	0	0
SW	2.2	3.9	60	58
WSW	1.3	3.1	1	1
W	.7	2.4	0	0
WNW	1.2	3.0	9	7
NW	1.3	2.9	12	13
NNW	1.8	3.2	18	19
N	1.5	2.9	0	1

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	2.6	0	0
NE	.1	1.9	0	0
ENE	.6	2.2	0	0
E	.9	2.3	0	0
ESE	1.2	2.4	0	0
SE	1.1	2.2	0	0
SSE	1.5	3.0	0	0
S	1.5	3.1	6	4
SSW	1.6	3.0	1	2
SW	1.4	3.2	21	24
WSW	2.1	3.5	30	36
W	.7	2.1	0	0
WNW	.6	2.9	2	1
NW	1.1	3.5	41	33
NNW	.1	2.4	0	0
N	.1	2.0	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	1.9	0	0
NE	.6	1.7	0	0
ENE	.8	2.1	0	0
E	.7	2.0	0	0
ESE	.9	1.9	0	0
SE	1.0	2.1	0	0
SSE	1.2	2.6	0	0
S	1.2	2.7	3	2
SSW	1.6	3.1	6	6
SW	1.6	3.3	53	54
WSW	.9	2.4	0	0
W	1.3	2.8	19	15
WNW	.8	2.2	2	2
NW	1.1	2.4	16	17
NNW	1.0	2.3	1	2
N	1.1	2.2	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.4	0	0
NE	.5	1.7	0	0
ENE	.8	2.0	0	0
E	.6	2.0	0	0
ESE	.5	1.4	0	0
SE	.4	1.6	0	0
SSE	.6	1.7	0	0
S	.6	1.7	0	0
SSW	.4	1.8	0	0
SW	2.0	3.4	35	39
WSW	1.3	3.0	1	1
W	.7	2.5	0	0
WNW	1.4	3.2	20	16
NW	1.4	3.0	13	15
NNW	1.8	3.4	31	29
N	1.6	2.9	0	1

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	2.3	0	0
NE	.5	1.7	0	0
ENE	.6	1.7	0	0
E	.9	2.0	0	0
ESE	1.2	2.2	0	0
SE	1.1	2.1	0	0
SSE	1.4	2.5	0	0
S	1.7	3.6	11	9
SSW	1.6	2.8	1	2
SW	1.0	3.0	7	12
WSW	1.9	3.2	19	24
W	.5	2.1	0	0
WNW	.8	3.0	8	7
NW	1.2	3.4	53	44
NNW	.6	2.5	0	1
N	.2	2.0	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.1	0	0
NE	.5	1.7	0	0
ENE	.7	2.1	0	0
E	.7	1.8	0	0
ESE	.9	2.0	0	0
SE	.8	2.1	0	0
SSE	1.1	2.7	0	0
S	1.2	2.9	5	4
SSW	1.6	3.3	9	8
SW	1.5	3.1	47	49
WSW	.7	2.5	0	0
W	1.3	2.6	22	17
WNW	.9	2.8	8	7
NW	1.0	2.4	8	10
NNW	1.0	2.3	1	4
N	1.1	2.1	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.0	3.7	13	7
NE	1.3	3.0	7	4
ENE	.6	1.7	0	0
E	.8	2.3	0	0
ESE	.6	2.0	0	0
SE	.8	1.9	0	0
SSE	.5	1.4	0	0
S	.7	2.0	0	0
SSW	.5	1.5	0	0
SW	1.7	3.2	31	35
WSW	1.3	2.9	3	4
W	.9	2.3	0	0
WNW	1.2	2.9	18	14
NW	1.1	2.6	11	12
NNW	1.3	3.3	16	18
N	1.6	3.4	2	6

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.3	1.6	0	0
NE	.5	1.4	0	0
ENE	.5	1.6	0	0
E	.8	2.0	0	0
ESE	1.0	2.0	0	0
SE	.6	1.6	0	0
SSE	1.1	2.3	0	0
S	1.2	3.0	1	1
SSW	1.3	2.8	0	0
SW	1.1	3.0	6	11
WSW	1.9	3.4	18	22
W	.5	2.1	0	0
WNW	.6	3.0	2	2
NW	1.2	3.5	31	28
NNW	1.5	3.6	41	35
N	.6	2.5	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.6	0	0
NE	.5	1.6	0	0
ENE	.8	1.9	0	0
E	.5	2.3	0	0
ESE	.7	1.8	0	0
SE	.8	2.0	0	0
SSE	1.0	2.5	0	0
S	1.3	2.8	4	4
SSW	1.5	3.2	8	7
SW	1.5	3.1	47	50
WSW	.9	2.5	1	1
W	1.4	2.8	30	24
WNW	.8	2.2	2	2
NW	1.0	2.2	7	9
NNW	1.0	2.2	1	3
N	.7	1.8	0	0

TABLE E-144

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.1	0	0
NE	.8	1.8	0	0
ENE	.9	2.3	0	0
E	1.7	3.3	4	2
ESE	2.2	3.2	23	14
SE	1.4	2.5	0	0
SSE	1.3	2.7	0	0
S	1.3	2.8	0	0
SSW	.8	2.3	0	0
SW	1.5	3.0	6	9
WSW	2.5	3.9	56	65
W	1.4	2.5	3	1
WNW	1.1	2.5	0	0
NW	1.3	2.4	3	4
NNW	1.4	2.9	4	6
N	1.2	2.8	0	0

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	2.0	0	0
NE	.7	2.0	0	0
ENE	1.2	2.5	0	0
E	1.8	3.1	7	4
ESE	2.2	3.2	33	22
SE	1.6	2.8	0	0
SSE	1.3	2.4	0	0
S	1.4	2.5	0	0
SSW	.9	2.5	0	0
SW	1.5	3.2	8	12
WSW	2.3	3.8	43	54
W	1.4	2.6	4	3
WNW	1.2	2.3	2	2
NW	1.1	2.5	1	2
NNW	1.1	2.4	0	1
N	.9	2.7	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.6	0	0
NE	.4	1.6	0	0
ENE	.7	1.9	0	0
E	1.0	2.5	0	0
ESE	1.3	3.1	0	0
SE	1.1	2.5	0	0
SSE	.8	2.2	0	0
S	.7	1.8	0	0
SSW	1.0	2.3	0	0
SW	1.9	3.6	24	21
WSW	2.8	4.3	69	76
W	1.6	3.0	7	3
WNW	1.0	2.5	0	0
NW	1.2	2.4	1	1
NNW	.5	1.8	0	0
N	.5	1.8	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.6	0	0
NE	.9	2.2	0	0
ENE	1.0	2.5	0	0
E	1.7	3.2	2	1
ESE	2.3	3.5	21	12
SE	1.6	2.6	0	0
SSE	1.3	2.4	0	0
S	1.3	2.7	0	0
SSW	.8	2.2	0	0
SW	1.3	2.8	0	1
WSW	2.7	4.2	55	65
W	1.3	2.6	0	0
WNW	1.4	2.7	4	2
NW	1.5	2.8	9	9
NNW	1.7	3.2	8	9
N	1.8	3.5	0	1

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.3	0	0
NE	.9	2.1	0	0
ENE	1.2	2.6	0	1
E	1.8	2.9	9	5
ESE	2.2	3.2	35	25
SE	1.7	2.6	0	0
SSE	1.4	2.4	0	0
S	1.4	2.4	0	0
SSW	1.1	2.5	0	0
SW	1.2	2.8	1	2
WSW	2.2	3.8	38	49
W	1.2	2.8	1	1
WNW	1.3	2.7	10	8
NW	1.2	3.6	3	5
NNW	1.2	2.6	1	3
N	1.1	2.6	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	1.4	0	0
NE	.5	1.5	0	0
ENE	.8	1.8	0	0
E	1.0	2.4	0	0
ESE	1.2	3.0	0	0
SE	1.1	2.6	0	0
SSE	.8	2.3	0	0
S	.7	2.1	0	0
SSW	1.0	2.4	0	0
SW	1.6	3.5	14	14
WSW	2.5	4.3	61	69
W	1.6	3.3	13	7
WNW	1.2	2.6	1	1
NW	1.4	2.8	12	10
NNW	.6	1.7	0	0
N	.8	1.6	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.9	0	0
NE	1.2	2.5	0	0
ENE	1.3	2.5	0	0
E	1.8	3.0	4	1
ESE	2.2	3.3	14	9
SE	1.7	2.7	0	0
SSE	1.3	2.4	0	0
S	1.3	2.6	0	0
SSW	.8	3.2	0	0
SW	1.5	3.0	1	3
WSW	2.8	4.4	64	76
W	1.5	2.7	4	2
WNW	1.6	2.7	11	7
NW	1.3	2.6	1	1
NNW	1.1	2.4	0	0
N	1.1	2.5	0	0

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.8	0	0
NE	1.1	2.8	0	0
ENE	1.4	2.7	1	1
E	1.9	3.0	8	4
ESE	2.3	3.4	27	19
SE	1.9	2.8	0	1
SSE	1.5	2.7	0	0
S	1.5	2.6	1	1
SSW	1.2	2.5	0	0
SW	1.3	3.0	1	3
WSW	2.4	4.0	44	56
W	1.5	3.1	8	6
WNW	1.4	2.7	10	6
NW	1.1	2.6	0	1
NNW	1.1	2.4	0	0
N	1.1	3.0	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.7	0	0
NE	.6	1.7	0	0
ENE	.8	1.8	0	0
E	.9	2.0	0	0
ESE	1.1	2.3	0	0
SE	1.0	2.2	0	0
SSE	.9	2.6	0	0
S	.7	2.0	0	0
SSW	1.0	2.5	0	0
SW	2.0	3.7	22	28
WSW	2.7	4.4	55	63
W	1.7	3.2	16	9
WNW	1.1	2.7	0	0
NW	1.1	2.2	0	1
NNW	.8	1.9	0	0
N	.6	1.6	0	0

TABLE E-145

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.1	0	0
NE	.8	1.8	0	0
ENE	.9	2.3	0	1
E	1.7	3.3	4	2
ESE	2.2	3.2	12	8
SE	1.4	2.5	0	0
SSE	1.3	2.7	0	0
S	1.3	2.8	1	0
SSW	.8	2.3	0	0
SW	1.5	3.0	17	19
WSW	2.5	3.9	46	53
W	1.4	2.5	5	3
WNW	1.1	2.5	2	1
NW	1.3	2.4	3	4
NNW	1.4	2.9	8	9
N	1.2	2.8	0	0

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	2.0	0	0
NE	.7	2.0	0	0
ENE	1.2	2.5	2	1
E	1.8	3.1	6	3
ESE	2.2	3.2	14	9
SE	1.6	2.8	0	0
SSE	1.3	2.4	0	0
S	1.4	2.5	1	0
SSW	.9	2.5	0	0
SW	1.5	3.2	22	24
WSW	2.3	3.8	39	47
W	1.4	2.6	7	4
WNW	1.2	2.3	4	3
NW	1.1	2.5	4	5
NNW	1.1	2.4	1	3
N	.9	2.7	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.6	0	0
NE	.4	1.6	0	0
ENE	.7	1.9	0	0
E	1.0	2.5	0	0
ESE	1.3	3.1	0	0
SE	1.1	2.5	0	0
SSE	.8	2.2	0	0
S	.7	1.8	0	0
SSW	1.0	2.3	0	0
SW	1.9	3.6	38	34
WSW	2.8	4.3	50	57
W	1.6	3.0	9	5
WNW	1.0	2.5	1	1
NW	1.2	2.4	2	3
NNW	.5	1.8	0	0
N	.5	1.8	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.6	0	0
NE	.9	2.2	0	0
ENE	1.0	2.5	0	0
E	1.7	3.2	2	1
ESE	2.3	3.5	12	8
SE	1.6	2.6	0	0
SSE	1.3	2.4	0	0
S	1.3	2.7	0	0
SSW	.8	2.2	0	0
SW	1.3	2.8	2	3
WSW	2.7	4.2	44	51
W	1.3	2.6	1	1
WNW	1.4	2.7	5	3
NW	1.5	2.8	11	10
NNW	1.7	3.2	22	20
N	1.8	3.5	1	3

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.3	0	0
NE	.9	2.1	0	0
ENE	1.2	2.6	1	1
E	1.8	2.9	4	2
ESE	2.2	3.2	14	10
SE	1.7	2.6	0	0
SSE	1.4	2.4	0	0
S	1.4	2.4	0	0
SSW	1.1	2.5	0	0
SW	1.2	2.8	6	9
WSW	2.2	3.8	38	45
W	1.2	2.8	5	3
WNW	1.3	2.7	11	7
NW	1.2	3.6	16	15
NNW	1.2	2.6	4	7
N	1.1	2.6	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	1.4	0	0
NE	.5	1.5	0	0
ENE	.8	1.8	0	0
E	1.0	2.4	0	0
ESE	1.2	3.0	0	0
SE	1.1	2.6	0	0
SSE	.8	2.3	0	0
S	.7	2.1	0	0
SSW	1.0	2.4	0	0
SW	1.6	3.5	22	23
WSW	2.5	4.3	44	52
W	1.6	3.3	19	12
WNW	1.2	2.6	3	2
NW	1.4	2.8	12	11
NNW	.6	1.7	0	0
N	.8	1.6	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.9	0	0
NE	1.2	2.5	1	0
ENE	1.3	2.5	1	1
E	1.8	3.0	5	2
ESE	2.2	3.3	8	5
SE	1.7	2.7	0	0
SSE	1.3	2.4	0	0
S	1.3	2.6	0	0
SSW	.8	3.2	0	0
SW	1.5	3.0	6	8
WSW	2.8	4.4	56	65
W	1.5	2.7	5	3
WNW	1.6	2.7	12	7
NW	1.3	2.6	5	6
NNW	1.1	2.4	1	2
N	1.1	2.5	0	0

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.8	0	0
NE	1.1	2.8	1	1
ENE	1.4	2.7	3	3
E	1.9	3.0	6	3
ESE	2.3	3.4	11	8
SE	1.9	2.8	0	0
SSE	1.5	2.7	0	0
S	1.5	2.6	1	0
SSW	1.2	2.5	0	0
SW	1.3	3.0	7	10
WSW	2.4	4.0	43	52
W	1.5	3.1	13	8
WNW	1.4	2.7	11	8
NW	1.1	2.6	4	5
NNW	1.1	2.4	0	2
N	1.1	3.0	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.7	0	0
NE	.6	1.7	0	0
ENE	.8	1.8	0	0
E	.9	2.0	0	0
ESE	1.1	2.3	0	0
SE	1.0	2.2	0	0
SSE	.9	2.6	0	0
S	.7	2.0	0	0
SSW	1.0	2.5	0	0
SW	2.0	3.7	34	33
WSW	2.7	4.4	45	53
W	1.7	3.2	19	12
WNW	1.1	2.7	2	1
NW	1.1	2.2	0	1
NNW	.8	1.9	0	0
N	.6	1.6	0	0

TABLE E-146

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	2.1	0	0
NE	.8	1.9	0	0
ENE	.8	2.4	0	0
E	1.5	3.1	4	2
ESE	2.3	3.6	65	52
SE	1.6	2.9	0	0
SSE	1.6	3.0	0	0
S	1.7	3.1	8	8
SSW	1.0	2.7	0	0
SW	1.2	2.8	1	4
WSW	1.8	3.1	13	19
W	1.1	2.3	1	1
WNW	1.2	2.3	5	6
NW	1.2	2.6	3	6
NNW	1.1	2.4	0	1
N	1.1	2.7	0	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	1.6	0	0
NE	.6	1.7	0	0
ENE	.8	2.1	0	0
E	1.0	2.4	1	1
ESE	1.0	2.4	0	0
SE	1.1	2.7	0	0
SSE	1.4	2.9	1	1
S	1.7	3.0	34	29
SSW	1.6	3.2	19	15
SW	1.4	3.0	45	52
WSW	1.0	2.7	1	1
W	.6	2.0	0	0
WNW	.6	1.6	0	0
NW	.7	1.9	0	0
NNW	.8	2.0	0	1
N	.6	1.8	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.1	0	0
NE	.7	2.1	0	0
ENE	.6	1.8	0	0
E	.7	2.0	0	0
ESE	1.0	2.0	0	0
SE	1.0	2.2	0	0
SSE	.5	2.0	0	0
S	.6	2.1	0	0
SSW	.7	2.5	0	0
SW	.9	2.7	0	0
WSW	1.3	2.7	0	1
W	1.3	3.0	5	5
WNW	1.5	3.4	37	36
NW	1.7	3.4	59	55
NNW	1.1	2.5	1	3
N	.4	2.1	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	2.2	0	0
NE	.8	2.4	0	0
ENE	1.0	2.7	0	0
E	1.9	3.5	10	7
ESE	2.5	4.1	71	60
SE	1.7	3.2	0	1
SSE	1.6	3.0	0	0
S	1.6	3.2	2	3
SSW	1.2	3.0	0	0
SW	1.0	2.8	0	0
WSW	1.9	3.6	16	26
W	1.0	2.4	0	0
WNW	1.2	2.2	1	2
NW	1.0	2.5	0	1
NNW	1.1	2.5	0	1
N	.7	2.2	0	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.0	0	0
NE	1.1	2.5	2	2
ENE	1.3	2.8	7	7
E	1.0	2.5	0	0
ESE	.9	2.6	0	0
SE	1.1	2.7	0	0
SSE	1.3	3.1	0	0
S	1.9	3.5	44	38
SSW	1.8	3.3	21	17
SW	1.4	3.2	26	35
WSW	1.0	2.6	0	0
W	.8	2.6	0	0
WNW	.6	2.0	0	0
NW	.8	1.9	0	1
NNW	.8	2.5	0	1
N	.5	1.6	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.8	0	0
NE	.6	2.1	0	0
ENE	.5	1.4	0	0
E	.6	2.4	0	0
ESE	1.0	2.2	0	0
SE	1.0	2.3	0	0
SSE	.8	2.5	0	0
S	.7	2.5	0	0
SSW	.7	2.6	0	0
SW	1.0	2.8	0	2
WSW	1.0	2.6	0	0
W	.9	2.6	0	1
WNW	1.2	2.6	16	19
NW	1.5	3.2	84	78
NNW	.7	2.2	0	0
N	.6	1.8	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.3	2.1	0	0
NE	.8	1.9	0	0
ENE	1.0	2.6	0	0
E	1.6	3.2	7	3
ESE	2.0	3.7	39	27
SE	1.7	2.9	0	1
SSE	1.6	3.2	0	1
S	1.5	3.2	4	3
SSW	1.2	3.0	0	0
SW	1.0	2.5	0	1
WSW	2.0	3.8	38	42
W	1.3	2.8	6	5
WNW	1.1	2.1	2	2
NW	1.1	2.2	2	4
NNW	1.1	2.6	1	3
N	1.2	3.1	0	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.1	0	0
NE	.9	2.5	1	1
ENE	1.5	2.6	16	14
E	.9	2.5	0	0
ESE	.8	2.4	0	0
SE	.8	2.3	0	0
SSE	1.2	2.9	0	0
S	1.9	3.4	51	45
SSW	1.8	3.3	21	17
SW	1.2	3.2	11	20
WSW	1.0	2.5	0	0
W	.6	2.3	0	0
WNW	.6	1.7	0	0
NW	.7	2.1	0	0
NNW	.9	2.3	1	3
N	.8	2.5	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	2.3	0	0
NE	.6	2.2	0	0
ENE	.5	1.5	0	0
E	.6	1.7	0	0
ESE	.6	1.8	0	0
SE	.8	2.3	0	0
SSE	.8	2.3	0	0
S	.7	2.5	0	0
SSW	.8	2.5	0	0
SW	1.0	2.8	2	6
WSW	.8	2.6	0	0
W	.8	2.3	0	0
WNW	1.2	2.8	45	41
NW	1.3	2.8	51	47
NNW	.9	2.3	1	3
N	1.3	3.2	1	3

TABLE E-147

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	2.1	0	0
NE	.8	1.9	0	0
ENE	.8	2.4	0	0
E	1.5	3.1	8	5
ESE	2.3	3.6	40	30
SE	1.6	2.9	0	0
SSE	1.6	3.0	0	1
S	1.7	3.1	11	10
SSW	1.0	2.7	0	0
SW	1.2	2.8	5	9
WSW	1.8	3.1	17	22
W	1.1	2.3	2	2
WNW	1.2	2.3	9	8
NW	1.2	2.6	6	9
NNW	1.1	2.4	1	4
N	1.1	2.7	0	1

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	1.6	0	0
NE	.6	1.7	0	0
ENE	.8	2.1	1	1
E	1.0	2.4	2	1
ESE	1.0	2.4	1	1
SE	1.1	2.7	0	0
SSE	1.4	2.9	1	1
S	1.7	3.0	22	18
SSW	1.6	3.2	12	10
SW	1.4	3.0	59	61
WSW	1.0	2.7	3	4
W	.6	2.0	0	0
WNW	.6	1.6	0	0
NW	.7	1.9	0	1
NNW	.8	2.0	0	1
N	.6	1.8	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.1	0	0
NE	.7	2.1	0	0
ENE	.6	1.8	0	0
E	.7	2.0	0	0
ESE	1.0	2.0	0	0
SE	1.0	2.2	0	0
SSE	.5	2.0	0	0
S	.6	2.1	0	0
SSW	.7	2.5	0	0
SW	.9	2.7	1	3
WSW	1.3	2.7	1	1
W	1.3	3.0	10	10
WNW	1.5	3.4	41	39
NW	1.7	3.4	47	45
NNW	1.1	2.5	1	3
N	.4	2.1	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	2.2	0	0
NE	.8	2.4	0	0
ENE	1.0	2.7	0	1
E	1.9	3.5	17	11
ESE	2.5	4.1	49	38
SE	1.7	3.2	0	0
SSE	1.6	3.0	0	0
S	1.6	3.2	5	5
SSW	1.2	3.0	0	1
SW	1.0	2.8	1	3
WSW	1.9	3.6	21	30
W	1.0	2.4	1	1
WNW	1.2	2.2	2	3
NW	1.0	2.5	1	3
NNW	1.1	2.5	1	4
N	.7	2.2	0	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.0	0	0
NE	1.1	2.5	4	3
ENE	1.3	2.8	11	9
E	1.0	2.5	1	0
ESE	.9	2.6	0	0
SE	1.1	2.7	0	0
SSE	1.3	3.1	0	1
S	1.9	3.5	26	22
SSW	1.8	3.3	11	10
SW	1.4	3.2	44	49
WSW	1.0	2.6	1	2
W	.8	2.6	1	1
WNW	.6	2.0	0	0
NW	.8	1.9	0	1
NNW	.8	2.5	1	2
N	.5	1.6	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.8	0	0
NE	.6	2.1	0	0
ENE	.5	1.4	0	0
E	.6	2.4	0	0
ESE	1.0	2.2	0	0
SE	1.0	2.3	0	0
SSE	.8	2.5	0	0
S	.7	2.5	0	0
SSW	.7	2.6	0	0
SW	1.0	2.8	3	7
WSW	1.0	2.6	1	1
W	.9	2.6	1	2
WNW	1.2	2.6	17	18
NW	1.5	3.2	79	70
NNW	.7	2.2	0	2
N	.6	1.8	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.3	2.1	0	0
NE	.8	2.5	0	0
ENE	1.0	2.6	1	2
E	1.6	3.2	10	5
ESE	2.0	3.7	29	20
SE	1.7	2.9	0	0
SSE	1.6	3.2	0	0
S	1.5	3.2	6	5
SSW	1.2	3.0	0	1
SW	1.0	2.5	1	3
WSW	2.0	3.8	36	45
W	1.3	2.8	10	7
WNW	1.1	2.1	1	1
NW	1.1	2.2	2	3
NNW	1.1	2.6	4	7
N	1.2	3.1	0	1

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.1	0	0
NE	.9	2.5	3	2
ENE	1.5	2.6	13	11
E	.9	2.5	1	1
ESE	.8	2.4	0	0
SE	.8	2.3	0	0
SSE	1.2	2.9	0	1
S	1.9	3.4	33	28
SSW	1.8	3.3	12	10
SW	1.2	3.2	32	38
WSW	1.0	2.5	2	2
W	.8	2.3	0	0
WNW	.6	1.7	0	0
NW	.7	2.1	1	2
NNW	.9	2.3	2	5
N	.8	2.5	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	2.3	0	0
NE	.6	2.2	0	0
ENE	.5	1.5	0	0
E	.6	1.7	0	0
ESE	.6	1.8	0	0
SE	.8	2.3	0	0
SSE	.8	2.3	0	0
S	.7	2.5	0	0
SSW	.8	2.5	0	0
SW	1.0	2.8	6	11
WSW	.8	2.6	1	1
W	.8	2.3	2	1
WNW	1.2	2.8	46	41
NW	1.3	2.8	42	38
NNW	.9	2.3	1	4
N	1.3	3.2	1	3

TABLE E-148

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.5	0	0
NE	.9	2.2	0	0
ENE	.7	2.1	0	0
E	1.3	2.6	2	2
ESE	1.4	2.6	4	5
SE	1.4	3.0	0	0
SSE	1.1	3.1	0	0
S	.9	2.4	0	0
SSW	.9	2.4	0	0
SW	1.1	2.9	2	5
WSW	1.3	2.9	4	5
W	1.4	3.0	31	27
WNW	1.4	3.1	49	44
NW	1.1	2.3	9	12
NNW	.8	2.1	0	0
N	.6	2.3	0	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.0	0	0
NE	.8	2.5	0	0
ENE	.7	2.0	0	0
E	1.3	2.6	5	3
ESE	1.3	2.5	3	3
SE	1.5	2.8	0	1
SSE	1.1	2.8	0	0
S	.9	2.8	0	0
SSW	1.0	2.4	0	0
SW	1.1	2.8	7	12
WSW	1.3	2.9	9	12
W	1.2	2.7	14	11
WNW	1.3	2.8	47	38
NW	1.1	2.6	14	16
NNW	.9	2.4	1	3
N	1.1	2.8	0	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.0	0	0
NE	.7	1.9	0	0
ENE	1.1	2.5	2	1
E	1.1	2.5	1	0
ESE	1.6	2.8	14	8
SE	1.0	2.0	0	0
SSE	.5	1.5	0	0
S	.5	1.1	0	0
SSW	.7	2.1	0	0
SW	1.3	3.0	16	16
WSW	2.0	4.2	66	75
W	1.0	3.1	1	0
WNW	.5	1.5	0	0
NW	.6	1.6	0	0
NNW	.8	1.8	0	0
N	.6	1.8	0	0

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	2.0	0	0
NE	.8	2.1	0	0
ENE	1.1	2.4	2	2
E	1.1	2.2	2	1
ESE	1.4	2.6	7	4
SE	1.1	2.1	0	0
SSE	.6	1.6	0	0
S	.4	1.3	0	0
SSW	.6	2.0	0	0
SW	1.4	3.2	24	22
WSW	2.0	4.0	65	72
W	.6	2.1	0	0
WNW	.5	2.0	0	0
NW	.7	2.1	0	0
NNW	.8	1.6	0	0
N	.7	2.2	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.1	0	0
NE	.6	1.9	0	0
ENE	.6	2.0	0	0
E	.8	2.4	0	0
ESE	.6	1.8	0	0
SE	.6	1.9	0	0
SSE	.9	2.2	0	0
S	.6	2.0	0	0
SSW	.6	2.0	0	0
SW	.4	1.5	0	0
WSW	.4	1.5	0	0
W	1.4	2.4	19	18
WNW	1.4	2.4	30	31
NW	1.5	2.5	51	50
NNW	1.0	2.1	0	2
N	.9	2.0	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.0	0	0
NE	.7	1.8	0	0
ENE	1.0	2.5	0	1
E	1.3	2.8	2	2
ESE	1.5	2.7	5	6
SE	.6	1.9	0	0
SSE	.8	2.5	0	0
S	.7	2.3	0	0
SSW	.9	2.6	0	0
SW	.2	1.7	0	0
WSW	.9	1.6	0	0
W	1.4	2.6	17	16
WNW	1.3	2.3	25	25
NW	1.5	2.3	51	49
NNW	.9	2.1	0	1
N	.8	2.2	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.2	1	1
NE	.8	1.9	0	1
ENE	1.0	2.6	4	4
E	1.3	2.9	22	15
ESE	1.5	2.9	47	40
SE	1.2	2.5	0	1
SSE	1.3	3.1	1	1
S	1.1	3.6	6	7
SSW	1.0	2.9	0	1
SW	.4	1.6	0	0
WSW	.7	1.4	0	0
W	.3	2.0	0	0
WNW	.8	1.9	5	6
NW	.9	1.9	8	12
NNW	.9	2.1	5	10
N	1.0	2.1	0	2

TABLE E-149

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.5	0	0
NE	.9	2.2	0	0
ENE	.7	2.1	0	0
E	1.3	2.6	1	1
ESE	1.4	2.6	1	1
SE	1.4	3.0	0	0
SSE	1.1	3.1	0	0
S	.9	2.4	0	0
SSW	.9	2.4	0	0
SW	1.1	2.9	5	10
WSW	1.3	2.9	3	4
W	1.4	3.0	28	24
WNW	1.4	3.1	56	49
NW	1.1	2.3	5	8
NNW	.8	2.1	0	1
N	.6	2.3	0	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.0	0	0
NE	.8	2.5	1	1
ENE	.7	2.0	0	0
E	1.3	2.6	3	2
ESE	1.3	2.5	1	1
SE	1.5	2.8	0	0
SSE	1.1	2.8	0	0
S	.9	2.8	1	1
SSW	1.0	2.4	0	0
SW	1.1	2.8	12	17
WSW	1.3	2.9	9	11
W	1.2	2.7	14	11
WNW	1.3	2.8	45	36
NW	1.1	2.6	13	15
NNW	.9	2.4	2	4
N	1.1	2.8	0	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.0	0	0
NE	.7	1.9	0	0
ENE	1.1	2.5	3	2
E	1.1	2.5	1	0
ESE	1.6	2.8	5	3
SE	1.0	2.0	0	0
SSE	.5	1.5	0	0
S	.5	1.1	0	0
SSW	.7	2.1	0	0
SW	1.3	3.0	17	17
WSW	2.0	4.2	64	73
W	1.0	3.1	10	5
WNW	.5	1.5	0	0
NW	.6	1.8	0	0
NNW	.8	1.8	0	0
N	.6	1.8	0	0

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	2.0	0	0
NE	.8	2.1	1	0
ENE	1.1	2.4	4	2
E	1.1	2.2	1	0
ESE	1.4	2.6	2	1
SE	1.1	2.1	0	0
SSE	.6	1.6	0	0
S	.4	1.3	0	0
SSW	.6	2.0	0	0
SW	1.4	3.2	27	24
WSW	2.0	4.0	65	71
W	.6	2.1	0	0
WNW	.5	2.0	0	0
NW	.7	2.1	0	0
NNW	.8	1.8	0	0
N	.7	2.2	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.1	0	0
NE	.6	1.9	0	0
ENE	.6	2.0	0	0
E	.8	2.4	0	0
ESE	.6	1.8	0	0
SE	.6	1.9	0	0
SSE	.9	2.2	0	0
S	.6	2.0	0	0
SSW	.6	2.0	0	0
SW	.4	1.5	0	0
WSW	.4	1.5	0	0
W	1.4	2.4	20	19
WNW	1.4	2.4	28	27
NW	1.5	2.5	50	47
NNW	1.0	2.1	2	6
N	.9	2.0	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.0	0	0
NE	.7	1.8	0	0
ENE	1.0	2.5	4	4
E	1.3	2.8	9	6
ESE	1.5	2.7	8	8
SE	.6	1.9	0	0
SSE	.8	2.5	0	0
S	.7	2.3	0	0
SSW	.9	2.6	0	0
SW	.2	1.7	0	0
WSW	.9	1.6	0	0
W	1.4	2.6	15	14
WNW	1.3	2.3	25	24
NW	1.5	2.3	37	38
NNW	.9	2.1	1	4
N	.8	2.2	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.2	1	1
NE	.8	1.9	1	1
ENE	1.0	2.6	7	7
E	1.3	2.9	16	11
ESE	1.5	2.9	23	21
SE	1.2	2.5	0	0
SSE	1.3	3.1	1	2
S	1.1	3.6	39	35
SSW	1.0	2.9	2	4
SW	.4	1.6	0	0
WSW	.7	1.4	0	0
W	.3	2.0	0	0
WNW	.8	1.9	2	3
NW	.9	1.9	3	7
NNW	.9	2.1	5	10
N	1.0	2.1	0	1

TABLE E-150

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 64

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	1.7	1	0
NE	.1	1.6	0	0
ENE	.3	1.6	0	0
E	.7	2.0	0	0
ESE	.6	1.6	0	0
SE	.1	1.7	0	0
SSE	.1	1.7	0	0
S	.6	1.8	0	0
SSW	.6	1.5	0	0
SW	1.1	2.3	37	38
WSW	1.2	2.2	22	26
W	.6	2.0	0	0
WNW	.7	1.9	1	1
NW	.7	2.0	1	2
NNW	1.1	2.0	39	32
N	.8	1.6	0	0

LOCATION 65

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.1	18	12
NE	.9	1.8	6	5
ENE	.6	2.0	0	0
E	.7	1.6	0	0
ESE	.8	1.7	0	1
SE	.6	2.0	0	0
SSE	.6	1.7	0	0
S	.7	1.9	0	0
SSW	.5	1.7	0	0
SW	.5	1.5	0	0
WSW	1.0	2.0	4	6
W	1.0	1.9	32	30
WNW	1.0	1.9	36	36
NW	.6	1.7	0	2
NNW	.7	2.0	1	4
N	1.0	2.0	1	4

LOCATION 66

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.7	6	3
NE	.5	1.4	0	0
ENE	.4	1.5	0	0
E	.7	1.6	8	5
ESE	.5	1.3	0	0
SE	.4	1.6	0	0
SSE	.4	1.5	0	0
S	.1	1.4	0	0
SSW	.2	1.7	0	0
SW	.7	1.5	21	26
WSW	.1	1.5	0	0
W	.1	1.4	0	0
WNW	.5	1.7	3	3
NW	.6	1.8	13	14
NNW	.7	1.8	44	37
N	.8	1.7	6	11

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 64

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	1.7	3	2
NE	.4	1.4	0	0
ENE	.5	1.5	0	0
E	.8	2.2	1	0
ESE	.7	1.9	0	0
SE	.6	1.5	0	0
SSE	.7	1.5	0	0
S	.7	1.7	0	0
SSW	.8	1.6	0	0
SW	1.1	2.4	41	41
WSW	1.1	2.0	11	12
W	.7	2.0	1	0
WNW	.1	1.6	0	0
NW	.9	2.1	19	18
NNW	1.0	2.1	22	21
N	1.0	1.9	1	4

LOCATION 65

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.0	18	11
NE	.7	1.7	1	1
ENE	.6	1.5	0	1
E	.9	1.9	4	2
ESE	1.0	2.4	8	7
SE	.7	1.5	0	0
SSE	.6	1.4	0	0
S	.6	1.4	0	0
SSW	.7	1.7	0	0
SW	.5	1.5	0	0
WSW	1.1	1.9	21	29
W	1.0	1.8	37	31
WNW	.7	1.6	5	5
NW	.7	1.7	2	4
NNW	.7	1.7	1	4
N	1.0	1.9	1	5

LOCATION 66

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.5	0	0
NE	.4	1.3	0	0
ENE	.5	1.3	1	2
E	.5	1.4	0	0
ESE	.6	1.3	1	1
SE	.5	1.2	0	0
SSE	.1	1.2	0	0
S	.5	1.2	0	0
SSW	.3	1.2	0	0
SW	.4	1.3	0	0
WSW	.5	1.3	0	0
W	.2	1.3	0	0
WNW	.7	1.5	41	37
NW	.6	1.7	12	15
NNW	.7	1.6	47	43
N	.5	1.4	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 64

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	1.9	1	1
NE	1.0	1.8	3	2
ENE	.4	1.7	0	0
E	1.2	2.7	5	3
ESE	.8	1.8	0	0
SE	.6	1.5	0	0
SSE	.5	1.7	0	0
S	1.1	2.1	0	1
SSW	.8	1.8	0	0
SW	.8	2.0	0	1
WSW	1.1	2.4	2	3
W	1.4	2.5	42	38
WNW	1.2	2.3	43	40
NW	.7	2.0	0	1
NNW	1.1	2.4	4	9
N	1.2	2.0	0	2

LOCATION 65

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.2	2	2
NE	1.1	2.2	6	5
ENE	.8	1.8	0	0
E	1.0	2.0	1	1
ESE	1.0	2.2	0	0
SE	.6	1.4	0	0
SSE	1.0	1.8	0	0
S	1.2	2.0	3	3
SSW	.8	1.7	0	0
SW	.9	1.7	0	2
WSW	.9	1.7	0	0
W	.9	2.1	2	3
WNW	1.3	2.3	86	83
NW	.7	1.8	0	1
NNW	.7	1.8	0	0
N	.9	2.0	0	0

LOCATION 66

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	1.8	4	2
NE	.6	1.6	0	0
ENE	.5	1.3	0	0
E	.6	1.5	0	0
ESE	.5	1.4	0	0
SE	.4	1.3	0	0
SSE	.4	1.3	0	0
S	.7	1.6	0	0
SSW	.5	1.4	0	0
SW	.6	1.4	0	0
WSW	.2	1.4	0	0
W	.9	1.8	13	11
WNW	.9	1.9	47	41
NW	.7	1.9	2	5
NNW	1.0	2.4	31	31
N	1.1	2.0	5	10

TABLE E-151

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 64

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	1.7	0	0
NE	.1	1.6	0	0
ENE	.3	1.6	0	0
E	.7	2.0	1	0
ESE	.6	1.6	0	0
SE	.1	1.7	0	0
SSE	.1	1.7	0	0
S	.6	1.8	0	0
SSW	.6	1.5	0	0
SW	1.1	2.3	48	47
WSW	1.2	2.2	17	20
W	.6	2.0	5	3
WNW	.7	1.9	0	0
NW	.7	2.0	6	8
NNW	1.1	2.0	22	21
N	.8	1.6	0	0

LOCATION 65

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.1	11	7
NE	.9	1.8	16	11
ENE	.6	2.0	1	1
E	.7	1.6	0	0
ESE	.8	1.7	0	0
SE	.6	2.0	0	0
SSE	.6	1.7	0	0
S	.7	1.9	0	0
SSW	.5	1.7	0	0
SW	.5	1.5	0	1
WSW	1.0	2.0	11	14
W	1.0	1.9	39	33
WNW	1.0	1.9	2	2
NW	.6	1.7	5	8
NNW	.7	2.0	13	17
N	1.0	2.0	2	6

LOCATION 66

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.7	4	3
NE	.5	1.4	0	0
ENE	.4	1.5	0	0
E	.7	1.6	0	0
ESE	.5	1.3	0	0
SE	.4	1.6	0	0
SSE	.4	1.5	0	0
S	.1	1.4	0	0
SSW	.2	1.7	0	0
SW	.7	1.5	6	11
WSW	.1	1.5	0	0
W	.1	1.4	0	0
WNW	.5	1.7	0	0
NW	.6	1.8	40	37
NNW	.7	1.8	47	41
N	.8	1.7	3	8

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 64

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	1.7	0	0
NE	.4	1.4	0	0
ENE	.5	1.5	0	0
E	.8	2.2	2	1
ESE	.7	1.9	0	0
SE	.6	1.5	0	0
SSE	.7	1.5	0	0
S	.7	1.7	0	0
SSW	.8	1.6	0	0
SW	1.1	2.4	43	44
WSW	1.1	2.0	8	9
W	.7	2.0	8	5
WNW	.1	1.6	0	0
NW	.9	2.1	23	22
NNW	1.0	2.1	15	17
N	1.0	1.9	0	1

LOCATION 65

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.0	9	5
NE	.7	1.7	4	3
ENE	.6	1.5	1	1
E	.9	1.9	4	2
ESE	1.0	2.4	19	15
SE	.7	1.5	0	0
SSE	.6	1.4	0	0
S	.6	1.4	0	0
SSW	.7	1.7	0	0
SW	.5	1.5	0	1
WSW	1.1	1.9	16	21
W	1.0	1.8	26	21
WNW	.7	1.6	7	7
NW	.7	1.7	8	10
NNW	.7	1.7	5	9
N	1.0	1.9	2	5

LOCATION 66

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.5	0	0
NE	.4	1.3	0	0
ENE	.5	1.3	1	1
E	.5	1.4	0	0
ESE	.6	1.3	0	0
SE	.5	1.2	0	0
SSE	.1	1.2	0	0
S	.5	1.2	0	0
SSW	.3	1.2	0	0
SW	.4	1.3	0	0
WSW	.5	1.3	0	0
W	.2	1.3	0	0
WNW	.7	1.5	23	22
NW	.6	1.7	57	52
NNW	.7	1.6	19	23
N	.5	1.4	0	1

2000 FULL-BUILD PRE-MITIGATION

LOCATION 64

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	1.9	0	0
NE	1.0	1.8	1	1
ENE	.4	1.7	0	0
E	1.2	2.7	8	5
ESE	.8	1.8	0	0
SE	.6	1.5	0	0
SSE	.5	1.7	0	0
S	1.1	2.1	1	1
SSW	.8	1.8	0	0
SW	.8	2.0	1	4
WSW	1.1	2.4	3	4
W	1.4	2.5	32	28
WNW	1.2	2.3	40	36
NW	.7	2.0	2	5
NNW	1.1	2.4	11	16
N	1.2	2.0	0	0

LOCATION 65

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.2	2	2
NE	1.1	2.2	13	10
ENE	.8	1.8	0	1
E	1.0	2.0	1	1
ESE	1.0	2.2	0	0
SE	.6	1.4	0	0
SSE	1.0	1.8	0	0
S	1.2	2.0	1	1
SSW	.8	1.7	0	0
SW	.8	1.7	0	2
WSW	.9	1.7	0	0
W	.9	2.1	4	4
WNW	1.3	2.3	75	69
NW	.7	1.8	2	5
NNW	.7	1.8	1	3
N	.9	2.0	0	1

LOCATION 66

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	1.8	1	1
NE	.6	1.6	1	1
ENE	.5	1.3	0	0
E	.6	1.5	0	0
ESE	.5	1.4	0	0
SE	.4	1.3	0	0
SSE	.4	1.3	0	0
S	.7	1.6	0	0
SSW	.5	1.4	0	0
SW	.6	1.4	0	0
WSW	.2	1.4	0	0
W	.9	1.8	8	8
WNW	.9	1.9	24	23
NW	.7	1.9	15	18
NNW	1.0	2.4	50	45
N	1.1	2.0	1	5

TABLE E-152

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.8	9	5
NE	.1	1.6	0	0
ENE	.4	1.5	0	0
E	.4	1.9	0	0
ESE	.5	1.3	0	0
SE	.1	1.9	0	0
SSE	.1	1.7	0	0
S	.1	1.6	0	0
SSW	.3	1.6	0	0
SW	.5	1.5	2	5
WSW	.3	1.5	0	0
W	.4	1.4	0	0
WNW	.6	1.7	29	25
NW	.6	1.9	14	16
NNW	.7	2.0	43	38
N	.8	1.9	6	11

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.4	1	1
NE	.4	1.5	4	3
ENE	.4	1.4	2	2
E	.4	1.9	2	1
ESE	.1	1.9	0	0
SE	.1	2.0	0	0
SSE	.2	1.4	0	0
S	.1	1.5	0	0
SSW	.1	1.5	0	0
SW	.3	1.6	0	1
WSW	.1	1.3	0	0
W	.1	1.3	0	0
WNW	.5	1.7	54	43
NW	.3	1.6	0	0
NNW	.5	1.5	35	32
N	.5	1.6	1	3

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.4	0	0
NE	.5	1.6	5	4
ENE	.1	1.6	0	0
E	.4	1.5	1	1
ESE	.2	1.3	0	0
SE	.1	1.7	0	0
SSE	.3	1.4	0	0
S	.1	1.5	0	0
SSW	.1	1.6	0	0
SW	.3	1.3	0	0
WSW	.3	1.4	0	0
W	.1	1.4	0	0
WNW	.3	1.4	1	1
NW	.1	1.6	0	0
NNW	.4	1.5	6	10
N	.4	1.6	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.8	7	4
NE	.2	1.4	0	0
ENE	.6	1.5	2	2
E	.5	1.4	0	0
ESE	.4	1.2	0	0
SE	.4	1.2	0	0
SSE	.3	1.2	0	0
S	.5	1.2	0	0
SSW	.6	1.3	0	0
SW	.6	1.3	3	7
WSW	.4	1.3	0	0
W	.5	1.4	1	1
WNW	.7	1.5	57	46
NW	.6	1.7	10	12
NNW	.7	1.8	13	16
N	.9	1.9	8	13

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.3	1.3	0	0
NE	.1	1.2	0	0
ENE	.6	1.3	16	12
E	.3	1.2	0	0
ESE	.6	1.3	19	15
SE	.4	1.2	0	0
SSE	.1	1.1	0	0
S	.5	1.2	2	2
SSW	.4	1.2	0	0
SW	.4	1.2	5	10
WSW	.3	1.2	0	0
W	.1	1.2	0	0
WNW	.5	1.4	57	46
NW	.1	1.3	0	0
NNW	.1	1.3	0	0
N	.1	1.3	0	0

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.2	0	0
NE	.1	1.3	0	0
ENE	.3	1.3	0	0
E	.4	1.2	0	0
ESE	.4	1.1	0	0
SE	.4	1.2	0	0
SSE	.1	1.1	0	0
S	.4	1.2	0	1
SSW	.4	1.2	0	0
SW	.3	1.2	0	1
WSW	.1	1.1	0	0
W	.3	1.2	0	0
WNW	.1	1.2	0	0
NW	.1	1.2	0	0
NNW	.1	1.2	0	0
N	.1	1.2	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.4	2.5	7	5
NE	.9	2.2	1	1
ENE	.5	1.6	0	0
E	.7	1.5	0	0
ESE	.4	1.4	0	0
SE	.2	1.3	0	0
SSE	.4	1.3	0	0
S	.9	1.7	0	0
SSW	.7	1.5	0	0
SW	.5	1.4	0	0
WSW	.5	1.5	0	0
W	.7	1.7	0	0
WNW	1.1	2.0	26	23
NW	.8	2.2	0	1
NNW	1.3	2.8	34	34
N	1.8	2.9	32	36

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.5	16	9
NE	.1	1.4	0	0
ENE	.5	1.4	6	5
E	.6	1.3	11	6
ESE	.3	1.3	0	0
SE	.1	1.2	0	0
SSE	.2	1.3	0	0
S	.4	1.4	0	0
SSW	.5	1.4	1	1
SW	.3	1.3	0	1
WSW	.4	1.4	0	0
W	.1	1.4	0	0
WNW	.3	1.4	1	1
NW	.2	1.4	0	0
NNW	.1	1.4	0	0
N	.6	1.5	5	9

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.3	0	0
NE	.3	1.3	0	0
ENE	.4	1.3	1	2
E	.1	1.3	0	0
ESE	.1	1.3	0	0
SE	.1	1.2	0	0
SSE	.1	1.3	0	0
S	.5	1.4	1	1
SSW	.2	1.4	0	0
SW	.3	1.3	0	0
WSW	.5	1.3	4	4
W	.1	1.4	0	0
WNW	.1	1.6	0	0
NW	.1	1.3	0	0
NNW	.1	1.5	0	0
N	.1	1.4	0	0

TABLE E-153

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.8	5	3
NE	.1	1.6	0	0
ENE	.4	1.5	0	0
E	.4	1.9	0	0
ESE	.5	1.3	0	0
SE	.1	1.9	0	0
SSE	.1	1.7	0	0
S	.1	1.6	0	0
SSW	.3	1.6	0	0
SW	.5	1.5	2	6
WSW	.3	1.5	0	0
W	.4	1.4	3	3
WNW	.6	1.7	0	0
NW	.6	1.9	26	28
NNW	.7	2.0	61	52
N	.8	1.9	3	8

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.4	0	0
NE	.4	1.5	0	0
ENE	.4	1.4	0	0
E	.4	1.9	6	4
ESE	.1	1.9	4	4
SE	.1	2.0	0	0
SSE	.2	1.4	0	0
S	.1	1.5	0	0
SSW	.1	1.5	0	0
SW	.3	1.6	8	15
WSW	.1	1.3	0	0
W	.1	1.3	0	0
WNW	.5	1.7	86	78
NW	.3	1.6	0	0
NNW	.5	1.5	0	1
N	.5	1.6	0	0

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.4	0	0
NE	.5	1.6	0	0
ENE	.1	1.6	0	0
E	.4	1.5	0	0
ESE	.2	1.3	0	0
SE	.1	1.7	16	19
SSE	.3	1.4	0	0
S	.1	1.5	0	0
SSW	.1	1.6	0	0
SW	.3	1.3	1	3
WSW	.3	1.4	0	0
W	.1	1.4	44	37
WNW	.3	1.4	0	0
NW	.1	1.6	5	8
NNW	.4	1.5	37	35
N	.4	1.6	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.8	5	3
NE	.2	1.4	0	0
ENE	.6	1.5	1	1
E	.5	1.4	0	0
ESE	.4	1.2	0	0
SE	.4	1.2	0	0
SSE	.3	1.2	0	0
S	.5	1.2	0	0
SSW	.6	1.3	0	0
SW	.6	1.3	0	1
WSW	.4	1.3	0	0
W	.5	1.4	1	1
WNW	.7	1.5	23	20
NW	.6	1.7	34	32
NNW	.7	1.8	32	31
N	.9	1.9	5	10

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.3	1.3	0	0
NE	.1	1.2	0	0
ENE	.6	1.3	14	12
E	.3	1.2	1	1
ESE	.6	1.3	5	5
SE	.4	1.2	0	0
SSE	.1	1.1	0	0
S	.5	1.2	2	3
SSW	.4	1.2	0	0
SW	.4	1.2	2	5
WSW	.3	1.2	2	2
W	.1	1.2	1	1
WNW	.5	1.4	70	63
NW	.1	1.3	0	0
NNW	.1	1.3	1	3
N	.1	1.3	1	4

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.2	0	0
NE	.1	1.3	46	36
ENE	.3	1.3	12	13
E	.4	1.2	7	6
ESE	.4	1.1	0	0
SE	.4	1.2	1	3
SSE	.1	1.1	0	0
S	.4	1.2	8	11
SSW	.4	1.2	3	6
SW	.3	1.2	0	1
WSW	.1	1.1	0	0
W	.3	1.2	20	24
WNW	.1	1.2	0	0
NW	.1	1.2	0	0
NNW	.1	1.2	0	0
N	.1	1.2	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.4	2.5	3	2
NE	.9	2.2	3	3
ENE	.5	1.6	0	0
E	.7	1.5	0	0
ESE	.4	1.4	0	0
SE	.2	1.3	0	0
SSE	.4	1.3	0	0
S	.9	1.7	0	0
SSW	.7	1.5	0	0
SW	.5	1.4	0	0
WSW	.5	1.5	0	0
W	.7	1.7	0	0
WNW	1.1	2.0	8	9
NW	.8	2.2	4	8
NNW	1.3	2.8	72	61
N	1.8	2.9	10	17

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.5	15	9
NE	.1	1.4	0	0
ENE	.5	1.4	0	0
E	.6	1.3	4	2
ESE	.3	1.3	0	0
SE	.1	1.2	0	0
SSE	.2	1.3	0	0
S	.4	1.4	0	0
SSW	.5	1.4	0	0
SW	.3	1.3	1	3
WSW	.4	1.4	4	4
W	.1	1.4	0	0
WNW	.3	1.4	50	42
NW	.2	1.4	8	11
NNW	.1	1.4	12	16
N	.6	1.5	8	13

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.3	0	0
NE	.3	1.3	0	0
ENE	.4	1.3	1	2
E	.1	1.3	0	0
ESE	.1	1.3	0	0
SE	.1	1.2	0	0
SSE	.1	1.3	1	1
S	.5	1.4	23	18
SSW	.2	1.4	3	4
SW	.3	1.3	14	19
WSW	.5	1.3	4	4
W	.1	1.4	125	104
WNW	.1	1.6	253	213
NW	.1	1.3	[illegible]	922
NNW	.1	1.5	72	55
N	.1	1.4	1	3

TABLE E-154

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 70

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	1.7	2	2
NE	.5	1.7	0	0
ENE	.1	1.5	0	0
E	.1	2.3	0	0
ESE	.3	1.3	0	0
SE	.1	1.9	0	0
SSE	.3	1.3	0	0
S	.3	1.6	0	0
SSW	.4	1.5	0	0
SW	.5	1.4	0	1
WSW	.3	1.3	0	0
W	.1	2.4	0	0
WNW	.5	1.4	3	4
NW	.6	1.9	12	18
NNW	.9	1.9	80	68
N	.8	1.9	2	6

LOCATION 70

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.5	1.5	2	1
NE	.1	1.3	0	0
ENE	.5	1.3	9	7
E	.5	1.3	7	4
ESE	.6	1.3	11	9
SE	.4	1.2	0	0
SSE	.2	1.1	0	0
S	.4	1.2	0	0
SSW	.5	1.2	1	2
SW	.5	1.3	12	17
WSW	.2	1.2	0	0
W	.3	1.3	0	0
WNW	.4	1.3	24	19
NW	.1	1.5	0	0
NNW	.5	1.4	21	22
N	.5	1.5	1	4

LOCATION 70

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	1.7	6	4
NE	.6	1.5	4	3
ENE	.5	1.4	1	2
E	.4	1.3	0	0
ESE	.4	1.4	0	0
SE	.1	1.3	0	0
SSE	.1	1.3	0	0
S	.4	1.4	0	0
SSW	.2	1.3	0	0
SW	.1	1.3	0	0
WSW	.5	1.4	0	0
W	.1	1.4	0	0
WNW	.6	1.4	30	26
NW	.1	1.5	0	0
NNW	.7	1.7	35	34
N	1.0	2.0	29	33

LOCATION 71

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.4	1.4	1	0
NE	.4	1.4	2	2
ENE	.4	1.7	1	1
E	.5	1.6	3	2
ESE	.3	1.4	0	0
SE	.1	1.7	0	0
SSE	.1	1.4	0	0
S	.1	1.3	0	0
SSW	.1	1.5	0	0
SW	.4	1.4	1	3
WSW	.1	1.3	0	0
W	.1	1.3	0	0
WNW	.2	1.5	0	0
NW	.1	1.7	0	0
NNW	.4	1.5	9	13
N	.3	1.4	0	0

LOCATION 71

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.1	1.3	0	0
NE	.1	1.2	0	0
ENE	.3	1.3	0	0
E	.4	1.2	2	1
ESE	.4	1.2	0	0
SE	.3	1.1	0	0
SSE	.2	1.1	0	0
S	.4	1.1	1	1
SSW	.2	1.2	0	0
SW	.1	1.1	0	0
WSW	.4	1.2	2	2
W	.1	1.2	0	0
WNW	.1	1.3	0	0
NW	.1	1.2	0	0
NNW	.1	1.2	0	0
N	.3	1.2	0	0

LOCATION 71

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.1	1.3	0	0
NE	.4	1.4	3	2
ENE	.4	1.3	2	2
E	.3	1.3	0	0
ESE	.1	1.4	0	0
SE	.3	1.2	0	0
SSE	.1	1.4	0	0
S	.4	1.3	0	0
SSW	.3	1.3	0	0
SW	.1	1.3	0	0
WSW	.4	1.3	0	0
W	.1	1.3	0	0
WNW	.2	1.3	0	0
NW	.1	1.3	0	0
NNW	.5	1.4	21	27
N	.4	1.4	0	1

LOCATION 72

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.6	0	0
NE	.8	2.2	0	0
ENE	.6	2.0	0	0
E	.8	2.1	0	0
ESE	1.2	3.0	1	2
SE	1.0	2.6	0	0
SSE	.5	2.2	0	0
S	.6	1.8	0	0
SSW	.5	1.7	0	0
SW	1.2	2.4	14	20
WSW	1.4	2.8	11	14
W	1.1	2.5	9	7
WNW	1.3	2.6	55	44
NW	1.1	2.3	9	11
NNW	.9	2.0	0	1
N	1.2	2.7	0	2

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-155
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 70

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	1.7	0	0
NE	.5	1.7	0	0
ENE	.1	1.5	0	0
E	.1	2.3	0	0
ESE	.3	1.3	0	0
SE	.1	1.9	0	0
SSE	.3	1.3	0	0
S	.3	1.6	0	0
SSW	.4	1.5	0	0
SW	.5	1.4	0	0
WSW	.3	1.3	0	0
W	.1	2.4	76	67
WNW	.5	1.4	0	1
NW	.6	1.9	3	6
NNW	.9	1.9	20	24
N	.8	1.9	0	1

LOCATION 70

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.5	1.5	2	1
NE	.1	1.3	0	0
ENE	.5	1.3	1	1
E	.5	1.3	0	0
ESE	.6	1.3	0	0
SE	.4	1.2	0	0
SSE	.2	1.1	0	0
S	.4	1.2	0	0
SSW	.5	1.2	0	0
SW	.5	1.3	0	1
WSW	.2	1.2	0	0
W	.3	1.3	1	1
WNW	.4	1.3	20	18
NW	.1	1.5	25	27
NNW	.5	1.4	51	45
N	.5	1.5	1	5

LOCATION 70

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	1.7	1	0
NE	.6	1.5	0	0
ENE	.5	1.4	0	0
E	.4	1.3	0	0
ESE	.4	1.4	0	0
SE	.1	1.3	43	38
SSE	.1	1.3	0	0
S	.4	1.4	0	0
SSW	.2	1.3	0	0
SW	.1	1.3	49	48
WSW	.5	1.4	0	0
W	.1	1.4	0	0
WNW	.6	1.4	0	0
NW	.1	1.5	0	0
NNW	.7	1.7	6	9
N	1.0	2.0	2	5

LOCATION 71

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.4	1.4	0	0
NE	.4	1.4	0	0
ENE	.4	1.7	0	0
E	.5	1.6	0	0
ESE	.3	1.4	0	0
SE	.1	1.7	6	9
SSE	.1	1.4	0	0
S	.1	1.3	0	0
SSW	.1	1.5	0	0
SW	.4	1.4	0	0
WSW	.1	1.3	5	7
W	.1	1.3	0	0
WNW	.2	1.5	0	0
NW	.1	1.7	63	55
NNW	.4	1.5	29	30
N	.3	1.4	0	0

LOCATION 71

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.1	1.3	0	0
NE	.1	1.2	0	0
ENE	.3	1.3	17	14
E	.4	1.2	1	1
ESE	.4	1.2	0	0
SE	.3	1.1	0	1
SSE	.2	1.1	0	0
S	.4	1.1	10	10
SSW	.2	1.2	1	3
SW	.1	1.1	0	0
WSW	.4	1.2	1	2
W	.1	1.2	21	20
WNW	.1	1.3	50	48
NW	.1	1.2	0	0
NNW	.1	1.2	0	0
N	.3	1.2	0	0

LOCATION 71

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.1	1.3	62	46
NE	.4	1.4	0	0
ENE	.4	1.3	0	0
E	.3	1.3	0	0
ESE	.1	1.4	0	0
SE	.3	1.2	0	0
SSE	.1	1.4	2	3
S	.4	1.3	0	0
SSW	.3	1.3	0	0
SW	.1	1.3	0	0
WSW	.4	1.3	0	1
W	.1	1.3	0	0
WNW	.2	1.3	0	0
NW	.1	1.3	0	0
NNW	.5	1.4	32	41
N	.4	1.4	2	8

LOCATION 72

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.6	1	1
NE	.8	2.2	1	1
ENE	.6	2.0	0	0
E	.8	2.1	0	0
ESE	1.2	3.0	7	6
SE	1.0	2.6	0	0
SSE	.5	2.2	0	0
S	.6	1.8	0	0
SSW	.5	1.7	0	0
SW	1.2	2.4	10	16
WSW	1.4	2.8	8	10
W	1.1	2.5	10	8
WNW	1.3	2.6	52	43
NW	1.1	2.3	10	12
NNW	.9	2.0	0	1
N	1.2	2.7	1	3

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-156
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 73

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.4	0	0
NE	.8	2.2	0	0
ENE	.8	2.2	0	0
E	1.0	2.7	1	1
ESE	2.0	3.8	89	75
SE	1.5	3.2	0	2
SSE	1.1	2.8	0	0
S	1.2	3.1	2	3
SSW	.9	2.4	0	0
SW	.4	1.6	0	0
WSW	.5	1.7	0	0
W	.8	1.8	0	0
WNW	.5	1.7	0	0
NW	.8	1.7	0	1
NNW	1.0	2.2	2	6
N	1.5	2.9	5	12

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 74

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.6	0	0
NE	1.8	3.4	43	32
ENE	1.3	2.8	7	7
E	.7	2.7	0	0
ESE	1.7	3.8	25	25
SE	1.6	3.7	0	2
SSE	.9	2.9	0	0
S	1.1	3.1	0	1
SSW	1.0	2.6	0	0
SW	.5	1.6	0	0
WSW	.5	1.8	0	0
W	.7	2.1	0	0
WNW	1.0	2.1	5	7
NW	1.2	2.2	19	26
NNW	.7	2.1	0	0
N	.8	2.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.1	0	0
NE	1.3	2.5	0	0
ENE	1.4	2.7	1	1
E	1.5	2.7	1	0
ESE	1.8	3.2	3	3
SE	1.5	3.1	0	0
SSE	1.1	2.3	0	0
S	1.0	2.3	0	0
SSW	.8	2.2	0	0
SW	1.6	3.0	6	11
WSW	1.9	3.3	8	10
W	1.8	3.1	23	18
WNW	1.7	3.3	40	33
NW	1.5	3.0	13	15
NNW	1.6	2.9	6	9
N	1.0	2.4	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-157

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 73

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.4	0	0
NE	.8	2.2	1	1
ENE	.8	2.2	1	1
E	1.0	2.7	4	3
ESE	2.0	3.8	80	66
SE	1.5	3.2	1	3
SSE	1.1	2.8	0	0
S	1.2	3.1	7	8
SSW	.9	2.4	0	0
SW	.4	1.6	0	0
WSW	.5	1.7	0	0
W	.8	1.8	0	0
WNW	.5	1.7	0	0
NW	.8	1.7	0	0
NNW	1.0	2.2	2	6
N	1.5	2.9	4	10

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 74

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.6	0	0
NE	1.8	3.4	34	26
ENE	1.3	2.8	10	10
E	.7	2.7	1	0
ESE	1.7	3.8	39	36
SE	1.6	3.7	1	3
SSE	.9	2.9	0	0
S	1.1	3.1	4	5
SSW	1.0	2.6	0	0
SW	.5	1.6	0	0
WSW	.5	1.8	0	0
W	.7	2.1	0	0
WNW	1.0	2.1	4	6
NW	1.2	2.2	7	13
NNW	.7	2.1	0	0
N	.8	2.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.1	0	0
NE	1.3	2.5	0	0
ENE	1.4	2.7	1	1
E	1.5	2.7	1	0
ESE	1.8	3.2	2	2
SE	1.5	3.1	0	0
SSE	1.1	2.3	0	0
S	1.0	2.3	0	0
SSW	.8	2.2	0	0
SW	1.6	3.0	7	12
WSW	1.9	3.3	6	7
W	1.8	3.1	16	13
WNW	1.7	3.3	42	35
NW	1.5	3.0	20	21
NNW	1.6	2.9	5	9
N	1.0	2.4	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-158

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 76

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	1.8	0	0
NE	.6	1.7	1	1
ENE	.7	2.1	2	3
E	.9	2.5	6	5
ESE	1.3	3.1	81	72
SE	1.1	3.1	2	5
SSE	.7	2.6	0	0
S	.5	2.0	0	0
SSW	.6	2.1	0	0
SW	.4	1.6	0	0
WSW	.6	1.5	0	0
W	.7	1.9	9	11
WNW	.5	1.5	0	1
NW	.5	1.7	0	1
NNW	.5	1.8	0	1
N	.4	1.8	0	0

LOCATION 77

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.0	16	12
NE	.8	2.1	20	15
ENE	.3	1.9	0	0
E	.7	2.1	3	2
ESE	.6	2.1	1	1
SE	.6	2.4	0	0
SSE	.7	2.5	0	0
S	1.0	2.6	40	39
SSW	.5	2.3	0	0
SW	.5	1.7	0	1
WSW	.5	1.5	0	0
W	.5	1.6	1	1
WNW	.4	1.6	0	0
NW	.4	1.8	0	0
NNW	.7	1.7	19	26
N	.6	1.8	0	1

LOCATION 78

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.2	1.7	0	0
NE	.5	2.3	0	0
ENE	.6	2.4	0	1
E	.7	1.9	0	0
ESE	.9	2.7	4	6
SE	.8	2.9	0	0
SSE	1.0	2.9	0	1
S	1.4	3.2	85	79
SSW	1.1	2.7	9	10
SW	.4	1.5	0	0
WSW	.3	1.4	0	0
W	.4	1.6	0	0
WNW	.6	2.1	0	1
NW	.5	1.8	0	1
NNW	.3	1.8	0	0
N	.6	1.7	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.3	1.3	0	0
NE	.4	1.3	2	2
ENE	.1	1.2	0	0
E	.1	1.3	0	0
ESE	.3	1.2	0	0
SE	.3	1.3	0	0
SSE	.4	1.1	0	0
S	.3	1.2	0	0
SSW	.1	1.2	0	0
SW	.1	1.2	0	0
WSW	.4	1.2	2	2
W	.1	1.2	0	0
WNW	.1	1.3	0	0
NW	.5	1.3	23	23
NNW	.4	1.3	1	4
N	.5	1.3	0	2

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.2	1.3	0	0
NE	.4	1.4	3	2
ENE	.1	1.3	0	0
E	.3	1.4	0	0
ESE	.3	1.4	0	0
SE	.3	1.3	0	0
SSE	.4	1.3	0	0
S	.1	1.4	0	0
SSW	.1	1.2	0	0
SW	.3	1.3	0	1
WSW	.1	1.2	0	0
W	.1	1.3	0	0
WNW	.1	1.2	0	0
NW	.2	1.3	0	0
NNW	.1	1.3	0	0
N	.5	1.4	0	2

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-159

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 76

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	1.8	0	0
NE	.6	1.7	1	1
ENE	.7	2.1	4	5
E	.9	2.5	11	9
ESE	1.3	3.1	78	70
SE	1.1	3.1	3	6
SSE	.7	2.6	0	1
S	.5	2.0	0	1
SSW	.6	2.1	0	1
SW	.4	1.6	0	0
WSW	.6	1.5	0	0
W	.7	1.9	3	4
WNW	.5	1.5	0	0
NW	.5	1.7	0	0
NNW	.5	1.8	0	2
N	.4	1.8	0	0

LOCATION 77

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.0	3	2
NE	.8	2.1	20	15
ENE	.3	1.9	0	1
E	.7	2.1	4	3
ESE	.6	2.1	6	7
SE	.6	2.4	0	1
SSE	.7	2.5	1	2
S	1.0	2.6	59	53
SSW	.5	2.3	2	4
SW	.5	1.7	0	0
WSW	.5	1.5	0	0
W	.5	1.6	1	1
WNW	.4	1.6	2	3
NW	.4	1.8	0	1
NNW	.7	1.7	2	6
N	.6	1.8	0	1

LOCATION 78

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.2	1.7	0	0
NE	.5	2.3	2	2
ENE	.6	2.4	1	2
E	.7	1.9	0	0
ESE	.9	2.7	14	15
SE	.8	2.9	0	1
SSE	1.0	2.9	1	2
S	1.4	3.2	67	62
SSW	1.1	2.7	10	10
SW	.4	1.5	0	0
WSW	.3	1.4	0	0
W	.4	1.6	0	0
WNW	.6	2.1	4	6
NW	.5	1.8	0	0
NNW	.3	1.8	0	0
N	.6	1.7	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.3	1.3	3	2
NE	.4	1.3	15	9
ENE	.1	1.2	0	0
E	.1	1.3	0	0
ESE	.3	1.2	2	2
SE	.3	1.3	0	0
SSE	.4	1.1	0	0
S	.3	1.2	0	0
SSW	.1	1.2	0	0
SW	.1	1.2	32	35
WSW	.4	1.2	17	20
W	.1	1.2	22	16
WNW	.1	1.3	0	0
NW	.5	1.3	6	8
NNW	.4	1.3	0	1
N	.5	1.3	4	8

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.2	1.3	0	0
NE	.4	1.4	18	12
ENE	.1	1.3	0	0
E	.3	1.4	0	0
ESE	.3	1.4	8	8
SE	.3	1.3	0	0
SSE	.4	1.3	0	1
S	.1	1.4	0	0
SSW	.1	1.2	0	0
SW	.3	1.3	51	56
WSW	.1	1.3	0	0
W	.1	1.3	16	14
WNW	.1	1.2	8	8
NW	.2	1.3	0	0
NNW	.1	1.3	0	0
N	.5	1.4	0	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-160

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION					1995 INTERIM-BUILD PRE-MITIGATION				2000 FULL-BUILD PRE-MITIGATION			
LOCATION 79					LOCATION 0				LOCATION 0			
WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.1	3.3	15	10	NNE	.0	.0	0	0	NNE	.0	.0	0	0
NE	1.7	3.0	15	11	NE	.0	.0	0	0	NE	.0	.0	0	0
ENE	1.5	3.0	5	5	ENE	.0	.0	0	0	ENE	.0	.0	0	0
E	.9	2.4	0	0	E	.0	.0	0	0	E	.0	.0	0	0
ESE	1.6	3.3	3	3	ESE	.0	.0	0	0	ESE	.0	.0	0	0
SE	1.7	3.4	0	1	SE	.0	.0	0	0	SE	.0	.0	0	0
SSE	1.6	3.2	0	1	SSE	.0	.0	0	0	SSE	.0	.0	0	0
S	1.6	3.2	3	3	S	.0	.0	0	0	S	.0	.0	0	0
SSW	1.3	2.9	0	0	SSW	.0	.0	0	0	SSW	.0	.0	0	0
SW	.7	1.9	0	0	SW	.0	.0	0	0	SW	.0	.0	0	0
WSW	.5	1.6	0	0	WSW	.0	.0	0	0	WSW	.0	.0	0	0
W	.5	1.6	0	0	W	.0	.0	0	0	W	.0	.0	0	0
WNW	1.0	2.0	0	0	WNW	.0	.0	0	0	WNW	.0	.0	0	0
NW	1.1	2.3	2	4	NW	.0	.0	0	0	NW	.0	.0	0	0
NNW	1.7	2.6	40	39	NNW	.0	.0	0	0	NNW	.0	.0	0	0
N	2.2	3.3	18	24	N	.0	.0	0	0	N	.0	.0	0	0

TABLE E-161
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION					1995 INTERIM-BUILD PRE-MITIGATION				2000 FULL-BUILD PRE-MITIGATION			
LOCATION 79					LOCATION 0				LOCATION 0			
WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.1	3.3	12	7	NNE	.0	.0	0	0	NNE	.0	.0	0	0
NE	1.7	3.0	18	12	NE	.0	.0	0	0	NE	.0	.0	0	0
ENE	1.5	3.0	10	9	ENE	.0	.0	0	0	ENE	.0	.0	0	0
E	.9	2.4	0	0	E	.0	.0	0	0	E	.0	.0	0	0
ESE	1.6	3.3	10	9	ESE	.0	.0	0	0	ESE	.0	.0	0	0
SE	1.7	3.4	0	1	SE	.0	.0	0	0	SE	.0	.0	0	0
SSE	1.6	3.2	1	1	SSE	.0	.0	0	0	SSE	.0	.0	0	0
S	1.6	3.2	11	10	S	.0	.0	0	0	S	.0	.0	0	0
SSW	1.3	2.9	1	2	SSW	.0	.0	0	0	SSW	.0	.0	0	0
SW	.7	1.9	0	0	SW	.0	.0	0	0	SW	.0	.0	0	0
WSW	.5	1.6	0	0	WSW	.0	.0	0	0	WSW	.0	.0	0	0
W	.5	1.6	0	0	W	.0	.0	0	0	W	.0	.0	0	0
WNW	1.0	2.0	0	1	WNW	.0	.0	0	0	WNW	.0	.0	0	0
NW	1.1	2.3	4	7	NW	.0	.0	0	0	NW	.0	.0	0	0
NNW	1.7	2.6	22	24	NNW	.0	.0	0	0	NNW	.0	.0	0	0
N	2.2	3.3	10	16	N	.0	.0	0	0	N	.0	.0	0	0

TABLE E-162
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.5	1.8	0	0
NE	.9	2.0	0	0
ENE	.9	2.1	0	0
E	1.4	2.6	0	0
ESE	1.8	2.8	0	0
SE	1.5	2.6	0	0
SSE	1.0	2.5	0	0
S	.8	2.4	0	0
SSW	.8	2.2	0	0
SW	1.7	3.5	3	3
WSW	3.0	4.6	96	86
W	1.8	3.6	0	9
WNW	1.4	2.8	1	0
NW	1.6	2.8	0	1
NNW	.8	2.1	0	0
N	.9	2.0	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.3	3.0	0	2
NE	1.5	2.9	15	14
ENE	1.0	2.4	0	4
E	.8	2.0	0	0
ESE	1.1	2.4	0	0
SE	.7	2.2	0	0
SSE	.4	2.0	0	0
S	.7	2.1	0	0
SSW	.8	2.8	0	0
SW	1.2	3.3	7	7
WSW	1.6	3.3	78	73
W	.9	2.5	0	0
WNW	.5	1.9	0	0
NW	.7	2.4	0	0
NNW	.4	1.9	0	0
N	.7	2.4	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.6	2.7	0	0
NE	.5	1.9	0	0
ENE	.6	1.8	0	0
E	.4	1.7	0	0
ESE	.9	2.1	0	0
SE	.8	2.0	0	0
SSE	.5	1.8	0	0
S	.7	2.3	0	0
SSW	.5	2.2	0	0
SW	1.1	2.7	1	0
WSW	2.1	3.4	79	51
W	1.5	2.8	1	14
WNW	1.4	2.9	8	13
NW	1.5	2.7	10	21
NNW	1.1	2.3	1	0
N	1.1	2.8	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	2.0	0	0
NE	1.3	2.8	1	0
ENE	1.5	2.9	0	4
E	1.7	3.2	0	1
ESE	2.2	3.3	7	7
SE	1.7	2.7	0	0
SSE	1.3	2.6	0	0
S	1.2	2.9	0	0
SSW	.8	2.2	0	0
SW	1.5	3.2	2	1
WSW	2.7	4.4	88	75
W	1.6	3.3	0	6
WNW	1.4	2.8	1	1
NW	1.6	2.9	2	5
NNW	.6	1.8	0	0
N	.6	2.0	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.6	2.4	0	0
NE	1.5	2.9	18	16
ENE	1.3	2.9	2	14
E	.6	2.1	0	0
ESE	1.1	2.3	1	1
SE	.8	2.0	0	0
SSE	.8	1.8	0	0
S	.6	1.9	0	0
SSW	.5	2.2	0	0
SW	1.4	3.1	11	10
WSW	1.7	3.6	65	54
W	.8	2.5	0	0
WNW	1.0	2.8	2	4
NW	.9	2.6	0	1
NNW	.8	2.1	0	0
N	.6	2.5	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.7	0	0
NE	.5	2.2	0	0
ENE	.6	1.8	0	0
E	.4	1.7	0	0
ESE	.9	2.3	0	0
SE	.9	2.0	0	0
SSE	.8	1.9	0	0
S	.8	2.1	0	0
SSW	.8	2.3	0	0
SW	.9	2.3	0	0
WSW	2.3	3.8	81	54
W	1.6	3.1	1	12
WNW	1.4	2.9	7	10
NW	1.6	3.1	11	24
NNW	.9	2.4	0	0
N	.7	2.3	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	1.6	0	0
NE	1.1	2.5	0	0
ENE	1.4	2.7	0	2
E	2.2	3.5	0	5
ESE	2.6	3.5	16	15
SE	1.9	3.1	0	0
SSE	1.3	2.8	0	0
S	1.2	2.7	0	0
SSW	.9	2.4	0	0
SW	1.8	3.6	7	6
WSW	2.8	4.3	77	63
W	1.8	3.3	0	10
WNW	1.4	2.7	0	0
NW	1.2	2.2	0	0
NNW	.6	1.9	0	0
N	.9	1.9	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	2.5	0	0
NE	1.6	3.0	21	19
ENE	1.3	2.6	1	14
E	.6	2.0	0	0
ESE	1.0	2.4	0	0
SE	1.1	2.1	0	0
SSE	.7	1.9	0	0
S	.5	1.8	0	0
SSW	.6	2.1	0	0
SW	1.1	2.6	4	4
WSW	1.7	3.9	67	55
W	1.0	3.2	0	1
WNW	.9	2.9	2	2
NW	.9	2.6	0	1
NNW	1.0	3.0	4	3
N	.9	2.7	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	2.6	0	0
NE	.9	2.1	0	0
ENE	.7	1.8	0	0
E	.7	1.7	0	0
ESE	.8	1.8	0	0
SE	.9	1.8	0	0
SSE	.8	2.1	0	0
S	1.1	2.5	0	0
SSW	1.3	2.8	0	0
SW	1.1	2.8	0	0
WSW	2.5	4.1	76	44
W	2.0	3.4	7	34
WNW	1.7	3.0	11	17
NW	1.6	3.0	2	4
NNW	1.4	3.5	2	0
N	1.5	3.2	0	1

TABLE E-163

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.5	1.8	0	0
NE	.9	2.0	0	0
ENE	.9	2.1	0	0
E	1.4	2.6	0	0
ESE	1.8	2.8	0	0
SE	1.5	2.6	0	0
SSE	1.0	2.5	0	0
S	.8	2.4	0	0
SSW	.8	2.2	0	0
SW	1.7	3.5	15	11
WSW	3.0	4.6	81	64
W	1.8	3.6	1	21
WNW	1.4	2.8	2	2
NW	1.6	2.8	1	2
NNW	.8	2.1	0	0
N	.9	2.0	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.3	3.0	2	4
NE	1.5	2.9	12	10
ENE	1.0	2.4	0	7
E	.8	2.0	0	0
ESE	1.1	2.4	0	0
SE	.7	2.2	0	0
SSE	.4	2.0	0	0
S	.7	2.1	0	0
SSW	.8	2.8	0	0
SW	1.2	3.3	29	24
WSW	1.8	3.3	57	48
W	.9	2.5	0	5
WNW	.5	1.9	0	0
NW	.7	2.4	0	0
NNW	.4	1.9	0	0
N	.7	2.4	0	1

LOCATION 3

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.6	2.7	0	0
NE	.5	1.9	0	0
ENE	.6	1.8	0	0
E	.4	1.7	0	0
ESE	.9	2.1	0	0
SE	.8	2.0	0	0
SSE	.5	1.8	0	0
S	.7	2.3	0	0
SSW	.5	2.2	0	0
SW	1.1	2.7	7	3
WSW	2.1	3.4	62	33
W	1.5	2.8	3	18
WNW	1.4	2.9	16	27
NW	1.5	2.7	9	17
NNW	1.1	2.3	2	0
N	1.1	2.8	0	2

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	2.0	0	0
NE	1.3	2.8	2	1
ENE	1.5	2.9	0	4
E	1.7	3.2	0	1
ESE	2.2	3.3	3	2
SE	1.7	2.7	0	0
SSE	1.3	2.6	0	0
S	1.2	2.9	0	0
SSW	.8	2.2	0	0
SW	1.5	3.2	9	6
WSW	2.7	4.4	78	56
W	1.6	3.3	1	18
WNW	1.4	2.8	3	4
NW	1.6	2.9	3	7
NNW	.6	1.8	0	0
N	.6	2.0	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.6	2.4	0	0
NE	1.5	2.9	13	10
ENE	1.3	2.9	2	14
E	.6	2.1	0	0
ESE	1.1	2.3	0	0
SE	.8	2.0	0	0
SSE	.8	1.8	0	0
S	.6	1.9	0	0
SSW	.5	2.2	0	0
SW	1.2	3.1	26	19
WSW	1.7	3.6	48	32
W	.8	2.5	0	1
WNW	1.0	2.8	7	15
NW	.9	2.9	3	7
NNW	.8	2.1	1	0
N	.6	2.5	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.7	0	0
NE	.5	2.2	0	0
ENE	.6	1.8	0	0
E	.4	1.7	0	0
ESE	.9	2.3	0	0
SE	.9	2.0	0	0
SSE	.8	1.9	0	0
S	.8	2.1	0	0
SSW	.8	2.3	0	0
SW	.9	2.3	1	0
WSW	2.3	3.8	67	35
W	1.6	3.1	4	22
WNW	1.4	2.9	11	14
NW	1.6	3.1	16	29
NNW	.9	2.4	1	0
N	.7	2.3	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	1.8	0	0
NE	1.1	2.5	1	0
ENE	1.4	2.7	0	3
E	2.2	3.5	0	4
ESE	2.6	3.5	7	6
SE	1.9	3.1	0	0
SSE	1.3	2.8	0	0
S	1.2	2.7	0	0
SSW	.9	2.4	0	0
SW	1.8	3.6	17	13
WSW	2.8	4.5	73	55
W	1.8	3.3	1	18
WNW	1.4	2.7	1	1
NW	1.2	2.2	0	0
NNW	.6	1.9	0	0
N	.9	1.9	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	2.5	0	0
NE	1.6	3.0	15	12
ENE	1.3	2.6	1	9
E	.6	2.0	0	0
ESE	1.0	2.4	0	0
SE	1.1	2.1	0	0
SSE	.7	1.9	0	0
S	.5	1.8	0	0
SSW	.6	2.1	0	0
SW	1.1	2.9	16	11
WSW	1.7	3.6	53	36
W	1.0	3.2	0	7
WNW	.9	2.9	6	12
NW	.9	2.8	1	3
NNW	1.0	3.0	6	7
N	.9	2.7	0	2

LOCATION 3

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	2.6	0	0
NE	.9	2.1	0	0
ENE	.7	1.8	0	0
E	.7	1.7	0	0
ESE	.8	1.8	0	0
SE	.9	1.8	0	0
SSE	.8	2.1	0	0
S	1.1	2.5	0	0
SSW	1.3	2.8	0	0
SW	1.1	2.8	3	1
WSW	2.5	4.1	66	35
W	2.0	3.4	7	32
WNW	1.7	3.0	11	15
NW	1.6	3.0	5	8
NNW	1.4	3.5	9	5
N	1.5	3.2	0	4

TABLE E-164

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.2	0	1
NE	.8	1.8	8	6
ENE	.9	2.1	3	16
E	.8	1.8	0	3
ESE	.5	1.7	0	0
SE	.1	1.6	0	0
SSE	.5	2.0	0	0
S	.8	2.3	1	5
SSW	.9	2.6	1	3
SW	1.0	2.4	81	59
WSW	.5	1.7	0	0
W	.6	2.4	0	1
WNW	.4	1.7	0	0
NW	.6	1.8	1	4
NNW	.5	1.6	0	0
N	.4	1.9	0	0

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.5	0	0
NE	.6	1.9	0	0
ENE	.5	1.8	0	0
E	.5	1.8	0	0
ESE	.5	1.7	0	0
SE	.6	1.7	0	0
SSE	.3	1.9	0	0
S	.5	1.7	0	0
SSW	.5	2.1	0	0
SW	1.2	2.4	16	10
WSW	1.5	2.8	55	30
W	1.1	2.4	0	6
WNW	1.1	2.5	14	25
NW	1.2	2.4	11	23
NNW	.8	1.9	2	0
N	1.2	3.2	0	5

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	1.5	0	0
NE	.4	1.5	1	1
ENE	.5	2.0	0	7
E	.7	1.8	0	12
ESE	.6	2.0	3	4
SE	.7	1.9	0	1
SSE	.1	1.8	0	0
S	.4	1.8	0	0
SSW	.5	1.5	0	0
SW	.6	1.9	21	19
WSW	.2	1.4	0	0
W	.1	1.5	0	0
WNW	.5	1.4	13	47
NW	.4	1.6	0	1
NNW	.5	1.7	7	8
N	.1	1.5	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.4	0	0
NE	.9	2.3	11	7
ENE	1.1	2.4	10	23
E	.4	1.9	0	0
ESE	.1	1.7	0	0
SE	.1	1.8	0	0
SSE	.8	1.9	0	0
S	.5	2.2	0	0
SSW	.9	2.6	0	1
SW	1.0	2.4	56	31
WSW	.7	1.6	1	0
W	.6	1.5	0	0
WNW	.7	1.7	3	3
NW	.9	1.8	18	34
NNW	.4	1.9	0	0
N	.7	2.3	0	0

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.5	0	0
NE	.8	2.2	0	0
ENE	.9	2.0	0	0
E	.5	1.7	0	0
ESE	.1	1.7	0	0
SE	.1	1.5	0	0
SSE	.6	1.5	0	0
S	.1	1.6	0	0
SSW	.7	2.0	0	0
SW	1.0	2.2	1	0
WSW	1.8	3.3	55	24
W	1.3	3.2	1	6
WNW	1.4	2.8	21	33
NW	1.5	3.1	23	38
NNW	.8	2.4	0	0
N	.9	2.5	0	0

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.5	0	0
NE	.6	1.7	9	3
ENE	.7	1.6	4	12
E	.7	1.7	0	2
ESE	.1	1.9	0	0
SE	.3	1.7	0	0
SSE	.7	1.9	0	0
S	.1	1.7	0	0
SSW	.5	1.5	0	0
SW	.6	1.5	10	2
WSW	.6	1.3	9	0
W	.5	1.4	0	0
WNW	.7	1.6	30	33
NW	.7	1.6	38	44
NNW	.4	1.4	1	0
N	.7	1.5	1	3

2000 FULL-BUILD PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.7	0	0
NE	1.4	2.7	18	10
ENE	.9	2.1	0	2
E	.7	1.9	0	0
ESE	.5	1.8	0	0
SE	.3	1.6	0	0
SSE	.3	1.8	0	0
S	1.0	2.4	0	0
SSW	1.3	2.9	2	2
SW	1.1	2.3	8	2
WSW	.9	2.3	1	0
W	1.1	2.3	1	6
WNW	1.0	2.2	8	6
NW	1.0	2.2	2	2
NNW	1.6	3.6	58	64
N	1.2	2.7	0	3

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.4	0	0
NE	1.4	2.7	5	2
ENE	.9	2.2	0	0
E	.6	1.8	0	0
ESE	.8	1.9	0	0
SE	.7	1.9	0	0
SSE	.6	1.8	0	0
S	1.0	2.6	0	0
SSW	1.6	2.9	0	1
SW	1.3	2.6	3	1
WSW	2.0	3.5	57	24
W	1.8	3.5	14	43
WNW	1.5	3.0	18	26
NW	1.2	2.7	1	1
NNW	1.1	3.0	2	0
N	1.5	3.2	0	3

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.9	0	0
NE	.6	1.4	3	1
ENE	.5	1.5	0	2
E	1.0	2.2	8	18
ESE	1.1	2.2	46	23
SE	.8	1.9	0	0
SSE	.6	2.0	0	0
S	.4	1.8	0	0
SSW	.4	1.8	0	0
SW	.5	1.5	0	0
WSW	.6	1.5	2	0
W	.5	1.4	0	0
WNW	.6	1.5	3	1
NW	.2	1.5	0	0
NNW	.7	2.0	13	6
N	1.1	2.3	25	48

TABLE E-165

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.2	1	2
NE	.8	1.8	7	4
ENE	.9	2.1	1	10
E	.8	1.8	0	1
ESE	.5	1.7	0	0
SE	.1	1.6	0	0
SSE	.5	2.0	0	0
S	.8	2.3	4	10
SSW	.9	2.6	8	8
SW	1.0	2.4	73	51
WSW	.5	1.7	2	0
W	.6	2.4	0	9
WNW	.4	1.7	2	3
NW	.6	1.8	0	0
NNW	.5	1.6	0	0
N	.4	1.9	0	1

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.5	0	1
NE	.6	1.8	1	0
ENE	.5	1.8	0	0
E	.5	1.8	0	0
ESE	.5	1.7	0	0
SE	.6	1.7	0	0
SSE	.3	1.9	0	0
S	.5	1.7	0	0
SSW	.5	2.1	0	0
SW	1.2	2.4	19	9
WSW	1.5	2.8	45	19
W	1.1	2.4	1	10
WNW	1.1	2.5	16	25
NW	1.2	2.4	11	18
NNW	.8	1.9	2	0
N	1.2	3.2	5	18

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	1.5	0	0
NE	.4	1.5	2	0
ENE	.5	2.0	0	5
E	.7	1.8	0	3
ESE	.6	2.0	24	12
SE	.7	1.9	1	1
SSE	.1	1.8	0	0
S	.4	1.8	2	2
SSW	.5	1.5	0	0
SW	.6	1.9	39	17
WSW	.2	1.4	0	0
W	.1	1.5	1	5
WNW	.5	1.4	31	54
NW	.4	1.6	0	0
NNW	.5	1.7	0	0
N	.1	1.5	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.4	1	2
NE	.9	2.3	14	10
ENE	1.1	2.4	7	22
E	.4	1.9	0	0
ESE	.1	1.7	0	0
SE	.1	1.8	0	0
SSE	.8	1.9	0	0
S	.5	2.2	0	1
SSW	.9	2.6	6	7
SW	1.0	2.4	64	42
WSW	.7	1.6	1	0
W	.6	1.5	0	0
WNW	.7	1.7	1	1
NW	.9	1.8	4	10
NNW	.4	1.9	2	0
N	.7	2.3	0	4

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.5	0	0
NE	.8	2.2	1	0
ENE	.9	2.0	0	1
E	.5	1.7	0	0
ESE	.1	1.7	0	0
SE	.1	1.5	0	0
SSE	.6	1.5	0	0
S	.1	1.6	0	0
SSW	.7	2.0	0	0
SW	1.0	2.2	1	0
WSW	1.8	3.3	44	14
W	1.3	3.2	8	24
WNW	1.4	2.8	20	26
NW	1.5	3.1	25	36
NNW	.8	2.4	2	0
N	.9	2.5	0	0

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.5	1	1
NE	.6	1.7	9	4
ENE	.7	1.6	2	9
E	.7	1.7	0	4
ESE	.1	1.9	2	0
SE	.3	1.7	0	0
SSE	.7	1.9	1	1
S	.1	1.7	0	0
SSW	.5	1.5	0	1
SW	.6	1.5	21	7
WSW	.6	1.3	3	0
W	.5	1.4	0	1
WNW	.7	1.6	29	40
NW	.7	1.6	25	31
NNW	.4	1.4	6	1
N	.7	1.5	0	1

2000 FULL-BUILD PRE-MITIGATION

LOCATION 4

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.7	0	0
NE	1.4	2.7	13	7
ENE	.9	2.1	0	3
E	.7	1.9	0	0
ESE	.5	1.8	0	0
SE	.3	1.6	0	0
SSE	.3	1.8	0	0
S	1.0	2.4	0	0
SSW	1.3	2.9	3	3
SW	1.1	2.3	10	3
WSW	.9	2.3	2	0
W	1.1	2.3	0	4
WNW	1.0	2.2	6	4
NW	1.0	2.2	2	1
NNW	1.6	3.6	61	69
N	1.2	2.7	1	4

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.4	0	0
NE	1.4	2.7	4	2
ENE	.9	2.2	0	1
E	.6	1.8	0	0
ESE	.8	1.9	0	0
SE	.7	1.9	0	0
SSE	.6	1.8	0	0
S	1.0	2.6	0	0
SSW	1.6	2.9	0	1
SW	1.3	2.6	4	1
WSW	2.0	3.5	47	17
W	1.8	3.5	16	44
WNW	1.5	3.0	17	22
NW	1.2	2.7	3	3
NNW	1.1	3.0	8	3
N	1.5	3.2	1	5

LOCATION 6

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.9	1	1
NE	.6	1.4	2	0
ENE	.5	1.5	0	2
E	1.0	2.2	4	13
ESE	1.1	2.2	36	17
SE	.8	1.9	0	0
SSE	.6	2.0	0	0
S	.4	1.8	0	0
SSW	.4	1.8	0	0
SW	.5	1.5	3	1
WSW	.6	1.5	1	0
W	.5	1.4	0	0
WNW	.6	1.5	2	0
NW	.2	1.5	0	0
NNW	.7	2.7	24	28
N	1.1	2.3	17	36

TABLE E-166

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.2	3	2
NE	.7	1.8	9	3
ENE	.6	2.0	0	2
E	.6	2.1	0	0
ESE	.6	1.9	0	0
SE	.1	1.9	0	0
SSE	.5	1.8	0	0
S	.7	2.1	1	0
SSW	.8	2.2	1	1
SW	.6	1.7	8	1
WSW	.7	1.6	9	0
W	.8	1.7	26	39
WNW	.5	1.8	2	0
NW	.4	1.5	0	0
NNW	.5	1.7	3	0
N	1.2	2.3	34	49

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.3	2	6
NE	.1	1.6	0	0
ENE	.1	1.7	0	0
E	.1	1.5	0	0
ESE	.5	1.5	0	1
SE	.1	1.7	0	0
SSE	.1	1.6	0	0
S	.1	1.6	0	0
SSW	.7	1.6	5	8
SW	.1	1.4	0	0
WSW	.1	1.9	0	0
W	.6	1.7	7	68
WNW	.4	1.5	1	1
NW	.4	1.8	1	4
NNW	.5	2.0	10	13
N	.1	2.0	0	0

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.4	14	12
NE	.7	1.9	11	5
ENE	.8	2.3	10	20
E	.7	2.3	0	4
ESE	.7	2.3	7	2
SE	.5	1.7	0	0
SSE	.1	1.4	0	0
S	.1	1.6	0	0
SSW	.1	1.6	0	0
SW	.1	1.6	0	0
WSW	.1	1.5	0	0
W	.5	1.6	0	0
WNW	.5	1.6	6	3
NW	.7	1.7	20	25
NNW	.7	2.0	27	18
N	.7	2.4	2	7

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.0	0	0
NE	1.2	2.7	35	25
ENE	1.0	2.3	8	20
E	1.0	2.3	1	8
ESE	.8	2.2	1	0
SE	.4	1.7	0	0
SSE	.5	1.8	0	0
S	.6	2.0	0	0
SSW	.7	2.2	0	0
SW	.7	1.8	7	3
WSW	.8	1.6	16	4
W	.8	1.7	2	11
WNW	.7	2.0	10	12
NW	.7	2.0	2	2
NNW	.7	1.9	10	5
N	.6	2.0	0	0

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	0	0
NE	.8	1.9	6	2
ENE	.6	1.7	0	2
E	.6	1.9	0	0
ESE	.9	2.3	3	1
SE	.7	1.9	0	0
SSE	.6	1.7	0	0
S	.7	1.8	0	0
SSW	.7	1.8	0	0
SW	.6	1.5	1	0
WSW	.9	1.9	23	5
W	.9	2.4	4	17
WNW	.7	2.0	3	1
NW	.6	2.1	0	0
NNW	1.1	3.1	55	60
N	1.0	2.8	2	9

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.8	0	0
NE	.7	1.9	10	4
ENE	.1	1.7	0	0
E	.9	2.4	1	8
ESE	1.1	2.6	49	23
SE	.1	1.4	0	0
SSE	.5	1.5	0	0
S	.5	1.6	0	0
SSW	.5	1.4	0	0
SW	.5	1.3	0	0
WSW	.3	1.5	0	0
W	.5	1.8	0	0
WNW	.7	2.0	19	22
NW	.6	1.6	1	1
NNW	.5	2.4	1	0
N	1.1	3.1	20	39

2000 FULL-BUILD PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.0	0	0
NE	1.1	2.4	3	1
ENE	1.4	2.3	1	10
E	1.7	3.1	1	10
ESE	2.0	3.4	54	32
SE	1.4	2.8	0	0
SSE	.7	2.0	0	0
S	.7	2.4	0	0
SSW	1.1	2.3	0	0
SW	.6	2.0	0	0
WSW	.7	1.7	0	0
W	.8	1.6	0	0
WNW	.6	1.5	0	0
NW	.6	2.0	0	0
NNW	1.6	3.2	38	36
N	1.5	2.6	1	8

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.1	0	0
NE	.9	2.1	4	2
ENE	.8	1.6	0	2
E	1.0	1.9	0	1
ESE	1.6	2.9	54	40
SE	1.2	2.2	0	0
SSE	.7	1.9	0	0
S	.5	2.0	0	0
SSW	.7	1.9	0	0
SW	.3	1.9	0	0
WSW	.8	2.0	1	0
W	.8	2.1	0	1
WNW	.7	2.5	1	0
NW	.4	2.2	0	0
NNW	1.3	3.0	40	53
N	.8	2.3	0	0

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.9	1	0
NE	.4	1.8	0	0
ENE	.6	1.6	0	2
E	.5	2.0	0	0
ESE	1.0	2.4	29	11
SE	.5	1.6	0	0
SSE	.6	1.9	0	0
S	.3	1.7	0	0
SSW	.7	1.9	0	0
SW	.1	1.6	0	0
WSW	.5	1.6	1	0
W	.4	1.8	0	0
WNW	.5	1.6	1	0
NW	.8	2.3	40	49
NNW	.7	2.4	14	6
N	1.1	2.2	18	33

TABLE E-167

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.2	4	4
NE	.7	1.8	11	5
ENE	.6	2.0	1	8
E	.6	2.1	0	4
ESE	.6	1.9	3	1
SE	.1	1.9	0	0
SSE	.5	1.8	0	0
S	.7	2.1	4	4
SSW	.8	2.2	14	5
SW	.6	1.7	15	5
WSW	.7	1.6	7	1
W	.8	1.7	5	17
WNW	.5	1.8	11	8
NW	.4	1.5	0	0
NNW	.5	1.7	4	1
N	1.2	2.3	20	37

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.3	6	7
NE	.1	1.6	0	0
ENE	.1	1.7	0	1
E	.1	1.5	0	0
ESE	.5	1.5	0	0
SE	.1	1.7	0	0
SSE	.1	1.6	0	0
S	.1	1.6	10	15
SSW	.7	1.8	0	2
SW	.1	1.4	0	0
WSW	.1	1.9	72	43
W	.6	1.7	3	24
WNW	.4	1.5	5	6
NW	.4	1.8	0	0
NNW	.5	2.0	1	0
N	.1	2.0	0	3

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.4	12	10
NE	.7	1.9	13	6
ENE	.8	2.3	9	19
E	.7	2.3	1	7
ESE	.7	2.3	23	9
SE	.5	1.7	0	0
SSE	.1	1.4	0	0
S	.1	1.6	0	0
SSW	.1	1.6	0	0
SW	.1	1.6	0	0
WSW	.1	1.5	0	0
W	.5	1.6	0	0
WNW	.5	1.6	5	2
NW	.7	1.7	2	2
NNW	.7	2.0	19	11
N	.7	2.4	15	31

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.0	1	1
NE	1.2	2.7	35	24
ENE	1.0	2.3	10	21
E	1.0	2.3	2	10
ESE	.8	2.2	4	2
SE	.4	1.7	0	0
SSE	.5	1.8	0	0
S	.6	2.0	0	1
SSW	.7	2.2	1	2
SW	.7	1.8	6	2
WSW	.8	1.6	3	0
W	.8	1.7	0	3
WNW	.7	2.0	14	17
NW	.7	2.0	7	8
NNW	.7	1.9	13	7
N	.6	2.0	0	1

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	0	0
NE	.8	1.9	3	1
ENE	.6	1.7	0	1
E	.6	1.9	0	0
ESE	.9	2.3	3	1
SE	.7	1.9	0	0
SSE	.6	1.7	0	0
S	.7	1.8	0	0
SSW	.7	1.8	0	0
SW	.6	1.5	0	0
WSW	.9	1.9	6	0
W	.9	2.4	6	15
WNW	.7	2.0	5	1
NW	.6	2.1	1	1
NNW	1.1	3.1	69	69
N	1.0	2.8	4	11

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.8	0	0
NE	.7	1.9	7	3
ENE	.1	1.7	0	0
E	.9	2.4	1	7
ESE	1.1	2.6	40	20
SE	.1	1.4	0	0
SSE	.5	1.5	0	0
S	.5	1.6	0	0
SSW	.5	1.4	0	0
SW	.5	1.3	0	0
WSW	.3	1.5	0	0
W	.5	1.8	0	1
WNW	.7	2.0	5	2
NW	.6	1.6	0	0
NNW	.5	2.4	19	12
N	1.1	3.1	28	53

2000 FULL-BUILD PRE-MITIGATION

LOCATION 7

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.0	0	0
NE	1.1	2.4	6	2
ENE	1.4	2.3	1	8
E	1.7	3.1	2	12
ESE	2.0	3.4	41	21
SE	1.4	2.8	0	0
SSE	.7	2.0	0	0
S	.7	2.4	0	0
SSW	1.1	2.3	0	0
SW	.6	2.0	0	0
WSW	.7	1.7	0	0
W	.8	1.6	0	0
WNW	.6	1.5	0	0
NW	.6	2.0	0	0
NNW	1.6	3.2	47	50
N	1.5	2.6	1	6

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.1	0	0
NE	.9	2.1	4	1
ENE	.8	1.8	0	1
E	1.0	1.9	0	0
ESE	1.6	2.9	23	11
SE	1.2	2.2	0	0
SSE	.7	1.9	0	0
S	.5	2.0	0	0
SSW	.7	1.9	0	0
SW	.3	1.9	0	0
WSW	.8	2.0	2	0
W	.8	2.1	0	3
WNW	.7	2.5	14	16
NW	.4	2.2	1	0
NNW	1.3	3.0	57	66
N	.8	2.3	0	1

LOCATION 9

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.9	0	1
NE	.4	1.8	3	1
ENE	.6	1.6	0	2
E	.5	2.0	0	1
ESE	1.0	2.4	23	9
SE	.5	1.6	0	0
SSE	.6	1.9	0	0
S	.3	1.7	0	0
SSW	.7	1.9	0	0
SW	.1	1.6	1	0
WSW	.5	1.6	1	0
W	.4	1.8	0	0
WNW	.5	1.6	2	0
NW	.8	2.3	34	49
NNW	.7	2.4	32	25
N	1.1	2.2	3	11

TABLE E-168

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 13

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.3	1	1
NE	.8	2.0	3	1
ENE	.7	1.9	0	1
E	.6	1.9	0	0
ESE	.2	1.7	0	0
SE	.7	2.0	0	0
SSE	.1	1.8	0	0
S	.1	1.9	0	0
SSW	.5	1.8	0	0
SW	1.1	2.3	50	23
WSW	.1	1.7	0	0
W	.6	2.1	0	0
WNW	.6	1.7	0	0
NW	1.0	2.2	18	26
NNW	.8	2.4	9	4
N	1.4	2.8	20	43

LOCATION 14

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	1	1
NE	.9	1.9	11	4
ENE	.9	2.0	3	11
E	.7	1.8	0	0
ESE	.6	1.6	0	0
SE	.7	2.1	0	0
SSE	.4	2.0	0	0
S	.6	1.9	0	0
SSW	.4	1.8	0	0
SW	.7	1.8	3	0
WSW	.7	1.7	3	0
W	.6	2.4	0	0
WNW	.4	1.8	0	0
NW	.6	1.8	0	0
NNW	1.2	2.5	75	76
N	.9	2.7	2	7

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.1	0	0
NE	.9	2.2	12	5
ENE	1.0	2.1	4	11
E	.9	2.2	0	2
ESE	1.0	2.3	8	2
SE	.9	2.4	0	0
SSE	.7	2.1	0	0
S	.8	2.2	0	0
SSW	.9	2.1	1	1
SW	.7	1.9	2	0
WSW	.7	2.0	3	0
W	.6	2.1	0	0
WNW	.9	1.9	23	20
NW	.7	1.9	1	0
NNW	.8	2.2	11	3
N	1.4	2.9	36	54

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 13

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.5	3.7	17	15
NE	.6	2.2	1	0
ENE	.7	2.0	0	1
E	.7	1.8	0	0
ESE	.3	1.9	0	0
SE	.3	1.5	0	0
SSE	.6	1.5	0	0
S	.5	1.7	0	0
SSW	.8	2.0	0	0
SW	.9	2.2	17	6
WSW	.6	1.7	0	0
W	.9	2.2	3	11
WNW	.5	1.4	0	0
NW	.8	2.5	2	2
NNW	1.3	3.3	56	58
N	1.0	2.3	2	7

LOCATION 14

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.9	6	4
NE	.8	2.5	2	0
ENE	.6	2.0	0	0
E	.1	2.2	0	0
ESE	.1	1.7	0	0
SE	1.0	2.2	0	0
SSE	.9	2.2	0	0
S	.6	1.7	0	0
SSW	.5	2.0	0	0
SW	.8	1.8	3	0
WSW	.7	2.0	0	0
W	.8	2.5	0	0
WNW	.7	2.6	1	0
NW	.8	2.4	1	0
NNW	1.3	3.2	52	42
N	1.7	3.3	36	53

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.3	2	2
NE	1.6	3.4	32	20
ENE	1.2	2.6	4	13
E	1.4	2.8	2	10
ESE	1.3	2.9	10	4
SE	1.3	2.8	1	1
SSE	.8	2.0	0	0
S	.9	2.0	0	0
SSW	.9	2.2	0	0
SW	.7	1.7	0	0
WSW	.9	1.8	2	0
W	.7	2.1	0	0
WNW	.8	2.1	2	0
NW	.7	2.5	0	0
NNW	1.3	2.8	31	24
N	1.5	3.6	11	25

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 13

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	3.3	1	1
NE	.5	2.6	0	0
ENE	.7	2.0	0	0
E	.5	2.0	0	0
ESE	.4	1.8	0	0
SE	1.1	2.5	0	0
SSE	1.1	2.6	0	0
S	.7	2.0	0	0
SSW	1.0	2.4	0	0
SW	.9	2.1	4	1
WSW	.8	1.8	0	0
W	.8	2.3	0	0
WNW	.7	1.6	0	0
NW	1.0	1.9	6	4
NNW	1.5	2.8	67	61
N	1.7	3.0	20	33

LOCATION 14

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.4	2	2
NE	1.0	2.8	11	6
ENE	1.0	2.3	2	11
E	.7	2.3	0	0
ESE	1.3	2.6	28	16
SE	1.6	2.8	10	5
SSE	1.5	2.8	3	3
S	1.0	2.4	1	2
SSW	1.1	2.2	2	3
SW	.8	1.9	5	2
WSW	.9	2.0	5	1
W	.9	2.3	1	7
WNW	.8	2.3	4	3
NW	.9	2.0	4	7
NNW	.9	2.2	12	7
N	1.2	2.6	6	20

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.9	0	0
NE	1.2	2.7	3	1
ENE	1.6	2.7	2	13
E	2.2	3.3	7	21
ESE	2.5	3.7	78	56
SE	1.7	3.2	0	0
SSE	.8	2.4	0	0
S	.5	2.0	0	0
SSW	.9	2.2	0	0
SW	.4	1.6	0	0
WSW	.7	2.3	0	0
W	.8	2.0	0	0
WNW	1.1	2.4	1	1
NW	1.3	2.4	2	4
NNW	1.3	2.6	6	3
N	1.2	2.4	0	1

TABLE E-171
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 13

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.3	1	1
NE	.8	2.0	3	1
ENE	.7	1.9	0	1
E	.6	1.9	0	0
ESE	.2	1.7	0	0
SE	.7	2.0	0	0
SSE	.1	1.8	0	0
S	.1	1.9	0	0
SSW	.5	1.8	0	0
SW	1.1	2.3	42	19
WSW	.1	1.7	0	0
W	.6	2.1	0	3
WNW	.6	1.7	1	0
NW	1.0	2.2	11	16
NNW	.8	2.4	24	19
N	1.4	2.8	15	36

LOCATION 14

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	1	1
NE	.9	1.9	11	4
ENE	.9	2.0	2	8
E	.7	1.8	0	0
ESE	.6	1.6	0	0
SE	.7	2.1	0	0
SSE	.4	2.0	0	0
S	.6	1.9	0	0
SSW	.4	1.8	0	0
SW	.7	1.8	4	1
WSW	.7	1.7	3	0
W	.6	2.4	3	9
WNW	.4	1.8	4	1
NW	.6	1.8	1	0
NNW	1.2	2.5	61	57
N	.9	2.7	8	17

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.1	0	0
NE	.9	2.2	11	5
ENE	1.0	2.1	2	8
E	.9	2.2	0	3
ESE	1.0	2.3	7	2
SE	.9	2.4	0	0
SSE	.7	2.1	0	0
S	.8	2.2	2	2
SSW	.9	2.1	0	1
SW	.7	1.9	6	1
WSW	.7	2.0	10	1
W	.6	2.1	0	1
WNW	.9	1.9	18	19
NW	.7	1.9	1	0
NNW	.8	2.2	14	6
N	1.4	2.9	28	48

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 13

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.5	3.7	16	14
NE	.6	2.2	3	1
ENE	.7	2.0	0	1
E	.7	1.8	0	0
ESE	.3	1.9	0	0
SE	.3	1.5	0	0
SSE	.6	1.5	0	0
S	.5	1.7	0	0
SSW	.8	2.0	0	0
SW	.9	2.2	11	3
WSW	.6	1.7	0	0
W	.9	2.2	1	6
WNW	.5	1.4	0	0
NW	.8	2.5	7	7
NNW	1.3	3.3	60	64
N	1.0	2.3	0	3

LOCATION 14

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.9	4	3
NE	.8	2.5	7	2
ENE	.6	2.0	0	1
E	.1	2.2	0	0
ESE	.1	1.7	0	0
SE	1.0	2.2	0	0
SSE	.9	2.2	0	0
S	.6	1.7	0	0
SSW	.5	2.0	0	0
SW	.8	1.8	1	0
WSW	.7	2.0	1	0
W	.8	2.5	1	3
WNW	.7	2.6	9	5
NW	.8	2.4	7	5
NNW	1.3	3.2	54	49
N	1.7	3.3	17	31

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.3	1	1
NE	1.6	3.4	29	18
ENE	1.2	2.6	3	11
E	1.4	2.8	1	7
ESE	1.3	2.9	11	4
SE	1.3	2.8	0	0
SSE	.8	2.0	0	0
S	.9	2.0	0	0
SSW	.9	2.2	0	0
SW	.7	1.7	0	0
WSW	.9	1.8	1	0
W	.7	2.1	0	0
WNW	.8	2.1	2	0
NW	.7	2.5	3	3
NNW	1.3	2.8	28	20
N	1.5	3.6	19	36

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 13

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	3.3	8	7
NE	.5	2.6	7	2
ENE	.7	2.0	0	2
E	.5	2.0	0	0
ESE	.4	1.8	0	0
SE	1.1	2.5	0	0
SSE	1.1	2.6	1	0
S	.7	2.0	0	0
SSW	1.0	2.4	0	1
SW	.9	2.1	10	3
WSW	.8	1.8	1	0
W	.8	2.3	0	1
WNW	.7	1.6	0	0
NW	1.0	1.9	3	2
NNW	1.5	2.8	57	55
N	1.7	3.0	13	26

LOCATION 14

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.4	2	2
NE	1.0	2.8	20	12
ENE	1.0	2.3	3	12
E	.7	2.3	0	2
ESE	1.3	2.6	26	14
SE	1.6	2.8	2	2
SSE	1.5	2.8	2	1
S	1.0	2.4	2	3
SSW	1.1	2.2	1	2
SW	.8	1.9	4	1
WSW	.9	2.0	3	0
W	.9	2.3	1	10
WNW	.8	2.3	10	10
NW	.9	2.0	5	6
NNW	.9	2.2	13	7
N	1.2	2.6	4	15

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.9	0	0
NE	1.2	2.7	7	3
ENE	1.6	2.7	2	11
E	2.2	3.3	4	17
ESE	2.5	3.7	60	39
SE	1.7	3.2	1	1
SSE	.8	2.4	0	0
S	.5	2.0	0	0
SSW	.9	2.2	0	0
SW	.4	1.6	0	0
WSW	.7	2.3	0	0
W	.8	2.0	0	0
WNW	1.1	2.4	8	9
NW	1.3	2.4	5	8
NNW	1.3	2.6	13	9
N	1.2	2.4	0	2

TABLE E-172
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.0	0	0
NE	1.0	1.9	25	17
ENE	1.1	2.4	24	32
E	.8	2.0	0	6
ESE	.9	2.5	21	11
SE	.6	2.0	0	0
SSE	.4	1.8	0	0
S	.5	1.7	0	0
SSW	.4	1.9	0	0
SW	.5	2.3	1	0
WSW	.7	1.8	7	1
W	.1	1.8	0	0
WNW	.5	2.0	1	0
NW	.5	1.8	0	0
NNW	.6	2.1	5	1
N	1.0	2.5	12	30

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.4	0	0
NE	1.7	3.0	31	24
ENE	1.6	3.3	19	32
E	1.3	3.5	0	7
ESE	1.7	3.6	49	34
SE	1.0	2.9	0	0
SSE	.5	2.1	0	0
S	.7	2.3	0	0
SSW	1.0	2.3	0	0
SW	.6	1.7	0	0
WSW	.1	1.8	0	0
W	.6	1.9	0	0
WNW	.6	1.8	0	0
NW	.5	1.8	0	0
NNW	.5	1.8	0	0
N	1.1	2.6	0	3

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.3	0	0
NE	.8	2.3	4	1
ENE	.7	2.1	0	1
E	.6	2.3	0	0
ESE	.6	1.7	0	0
SE	.7	1.7	0	0
SSE	.5	1.8	0	0
S	.4	1.8	0	0
SSW	.1	1.8	0	0
SW	.4	1.8	0	0
WSW	.6	2.2	0	0
W	.7	2.0	0	0
WNW	.5	1.8	0	0
NW	.8	1.8	5	2
NNW	1.3	2.6	72	67
N	1.3	2.7	18	29

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.2	3	2
NE	.6	2.0	1	0
ENE	.5	1.6	0	0
E	.7	2.0	0	0
ESE	.1	1.9	0	0
SE	.7	2.2	0	0
SSE	.7	2.0	0	0
S	.7	1.6	0	0
SSW	.8	1.7	0	0
SW	.6	1.7	0	0
WSW	.8	2.0	4	0
W	.8	2.1	0	1
WNW	.7	2.1	3	0
NW	.8	2.5	3	2
NNW	1.4	3.2	73	75
N	1.3	3.3	9	19

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.0	1	2
NE	1.2	2.9	17	10
ENE	1.5	2.9	24	32
E	1.4	2.9	3	13
ESE	1.0	2.8	1	0
SE	1.2	2.7	0	0
SSE	.8	2.4	0	0
S	.6	2.2	0	0
SSW	.9	2.2	0	0
SW	.6	1.8	0	0
WSW	1.1	2.3	22	5
W	.9	2.1	0	5
WNW	.5	1.6	0	0
NW	.6	1.8	0	0
NNW	1.1	2.7	22	16
N	1.3	3.5	5	16

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.7	0	0
NE	.8	2.3	2	0
ENE	.9	2.3	0	2
E	.9	2.3	0	0
ESE	.8	2.1	0	0
SE	.6	1.6	0	0
SSE	.3	1.5	0	0
S	.8	2.0	0	0
SSW	1.2	2.4	4	2
SW	.7	1.9	0	0
WSW	.8	2.2	1	0
W	.9	2.7	0	1
WNW	.5	2.3	0	0
NW	.6	2.1	0	0
NNW	1.4	3.8	48	35
N	1.8	4.2	42	59

2000 FULL-BUILD PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.4	0	0
NE	1.0	2.3	4	1
ENE	.9	2.0	0	1
E	.6	1.8	0	0
ESE	.9	2.3	0	0
SE	1.5	2.6	1	1
SSE	1.1	2.2	0	0
S	.8	1.8	0	0
SSW	1.0	2.0	0	0
SW	.8	2.4	0	0
WSW	1.0	2.4	2	0
W	.9	2.7	0	0
WNW	.7	2.0	0	0
NW	1.1	2.5	6	4
NNW	1.9	3.4	85	92
N	1.2	2.2	0	1

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.7	0	0
NE	1.6	2.6	18	14
ENE	1.6	2.6	7	22
E	1.5	2.9	0	7
ESE	1.8	3.3	41	32
SE	1.4	3.0	0	0
SSE	1.0	2.5	0	0
S	.7	2.2	0	0
SSW	1.2	2.4	0	1
SW	.9	2.4	1	1
WSW	1.3	2.6	15	5
W	1.0	2.5	0	2
WNW	.3	1.5	0	0
NW	.8	1.6	0	0
NNW	1.3	2.5	16	15
N	.7	1.8	0	0

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.8	2	2
NE	.8	2.3	1	0
ENE	1.0	2.5	0	4
E	.9	2.4	0	0
ESE	.9	2.0	0	0
SE	1.0	2.3	0	0
SSE	1.1	2.4	0	0
S	1.1	2.6	1	2
SSW	1.3	2.5	4	3
SW	.9	2.3	5	1
WSW	1.2	2.9	30	7
W	1.2	2.9	16	40
WNW	1.0	2.8	17	20
NW	1.1	3.0	13	17
NNW	1.0	2.2	9	3
N	.8	2.8	0	0

TABLE E-169

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.0	0	0
NE	1.0	1.9	13	7
ENE	1.1	2.4	10	21
E	.8	2.0	0	5
ESE	.9	2.5	26	13
SE	.6	2.0	0	0
SSE	.4	1.8	0	0
S	.5	1.7	0	0
SSW	.4	1.9	0	0
SW	.5	2.3	10	4
WSW	.7	1.8	9	1
W	.1	1.8	0	0
WNW	.5	2.0	11	12
NW	.5	1.8	1	1
NNW	.6	2.1	4	1
N	1.0	2.5	14	32

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.4	0	0
NE	1.7	3.0	23	16
ENE	1.6	3.3	16	27
E	1.3	3.5	4	15
ESE	1.7	3.6	56	35
SE	1.0	2.9	0	0
SSE	.5	2.1	0	0
S	.7	2.3	0	0
SSW	1.0	2.3	0	0
SW	.6	1.7	0	0
WSW	.1	1.8	0	0
W	.6	1.9	0	0
WNW	.6	1.8	0	0
NW	.5	1.8	0	0
NNW	.5	1.8	0	0
N	1.1	2.6	1	5

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.3	1	1
NE	.8	2.3	3	3
ENE	.7	2.1	0	3
E	.6	2.3	0	1
ESE	.6	1.7	0	0
SE	.7	1.7	0	0
SSE	.5	1.8	0	0
S	.4	1.8	0	0
SSW	.1	1.8	0	0
SW	.4	1.8	0	0
WSW	.6	2.2	0	0
W	.7	2.0	2	6
WNW	.5	1.8	3	1
NW	.8	1.8	6	4
NNW	1.3	2.6	56	50
N	1.3	2.7	17	30

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.2	1	1
NE	.6	2.0	2	0
ENE	.5	1.6	0	0
E	.7	2.0	0	0
ESE	.1	1.9	0	0
SE	.7	2.2	0	0
SSE	.7	2.0	0	0
S	.7	1.6	0	0
SSW	.8	1.7	0	0
SW	.6	1.7	1	0
WSW	.8	2.0	4	0
W	.8	2.1	0	2
WNW	.7	2.1	4	1
NW	.8	2.5	9	7
NNW	1.4	3.2	67	66
N	1.3	3.3	12	23

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.0	0	0
NE	1.2	2.9	18	10
ENE	1.5	2.9	17	26
E	1.4	2.9	3	12
ESE	1.0	2.8	6	2
SE	1.2	2.7	0	0
SSE	.8	2.4	0	0
S	.6	2.2	0	0
SSW	.9	2.2	0	0
SW	.6	1.8	0	0
WSW	1.1	2.3	18	3
W	.9	2.1	1	6
WNW	.5	1.6	0	0
NW	.6	1.8	0	0
NNW	1.1	2.7	21	13
N	1.3	3.5	13	28

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.7	0	0
NE	.8	2.3	2	0
ENE	.9	2.3	0	2
E	.9	2.3	0	0
ESE	.8	2.1	0	0
SE	.6	1.6	0	0
SSE	.3	1.5	0	0
S	.8	2.0	0	0
SSW	1.2	2.4	0	0
SW	.7	1.9	0	0
WSW	.8	2.2	1	0
W	.9	2.7	2	5
WNW	.5	2.3	1	0
NW	.6	2.1	0	0
NNW	1.4	3.8	61	49
N	1.8	4.2	31	44

2000 FULL-BUILD PRE-MITIGATION

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.4	0	0
NE	1.0	2.3	5	1
ENE	.9	2.0	0	1
E	.6	1.8	0	0
ESE	.9	2.3	0	0
SE	1.5	2.6	0	0
SSE	1.1	2.2	0	0
S	.8	1.8	0	0
SSW	1.0	2.0	0	0
SW	.8	2.4	4	1
WSW	1.0	2.4	5	0
W	.9	2.7	1	7
WNW	.7	2.0	1	0
NW	1.1	2.5	13	14
NNW	1.9	3.4	67	73
N	1.2	2.2	0	1

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.7	0	0
NE	1.6	2.6	14	9
ENE	1.6	2.6	4	16
E	1.5	2.9	1	10
ESE	1.8	3.3	35	24
SE	1.4	3.0	0	1
SSE	1.0	2.5	0	0
S	.7	2.2	0	0
SSW	1.2	2.4	0	1
SW	.9	2.4	9	5
WSW	1.3	2.6	19	7
W	1.0	2.5	1	14
WNW	.3	1.5	0	0
NW	.8	1.6	0	0
NNW	1.3	2.5	15	13
N	.7	1.8	0	0

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.8	2	2
NE	.8	2.3	3	1
ENE	1.0	2.5	0	2
E	.9	2.4	0	0
ESE	.9	2.0	0	0
SE	1.0	2.3	0	0
SSE	1.1	2.4	0	0
S	1.1	2.6	1	1
SSW	1.3	2.5	0	1
SW	.9	2.3	6	1
WSW	1.2	2.9	20	3
W	1.2	2.9	13	29
WNW	1.0	2.8	26	34
NW	1.1	3.0	20	22
NNW	1.0	2.2	6	1
N	.8	2.8	1	4

TABLE E-170

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	2.1	0	0
NE	1.0	2.3	8	3
ENE	.8	2.0	0	1
E	.5	2.1	0	0
ESE	.8	2.1	0	0
SE	.9	2.3	0	0
SSE	.6	1.8	0	0
S	.7	2.3	0	0
SSW	.6	1.9	0	0
SW	.5	1.5	0	0
WSW	.6	1.7	0	0
W	.7	2.1	0	0
WNW	.6	1.6	0	0
NW	1.0	2.1	8	6
NNW	1.5	3.2	78	79
N	1.3	2.7	4	11

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 16

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.2	2.6	0	0
NE	1.7	3.7	18	12
ENE	2.1	3.4	23	34
E	2.0	3.5	6	19
ESE	2.0	3.4	40	25
SE	1.5	3.1	0	0
SSE	1.2	2.7	0	0
S	.9	2.5	0	0
SSW	1.1	2.9	0	0
SW	.5	1.8	0	0
WSW	1.2	2.5	2	0
W	.9	2.3	0	0
WNW	.9	2.2	0	0
NW	.9	2.5	0	0
NNW	1.3	2.9	9	5
N	1.4	3.2	0	4

LOCATION 17

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.1	2.9	0	0
NE	2.0	3.7	22	15
ENE	2.3	3.5	23	34
E	2.2	3.4	5	18
ESE	2.2	3.5	40	26
SE	1.8	3.4	0	1
SSE	1.4	3.0	0	0
S	1.0	2.8	0	0
SSW	1.1	2.8	0	0
SW	.6	1.9	0	0
WSW	1.0	2.6	0	0
W	.9	2.4	0	0
WNW	.9	2.4	0	0
NW	1.2	3.0	1	1
NNW	1.4	3.3	9	5
N	1.3	2.9	0	1

LOCATION 18

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.1	2.9	0	0
NE	1.5	3.0	11	7
ENE	2.0	3.0	17	30
E	2.0	3.3	8	22
ESE	2.1	3.3	52	35
SE	1.6	3.1	0	1
SSE	1.4	2.8	0	0
S	.9	2.5	0	0
SSW	1.0	2.3	0	0
SW	.5	2.0	0	0
WSW	1.2	2.6	3	0
W	1.0	2.7	0	0
WNW	.9	2.4	0	0
NW	1.1	2.4	1	1
NNW	1.2	3.1	7	4
N	.9	2.6	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 16

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	2.4	0	0
NE	1.1	2.4	8	5
ENE	1.4	2.3	8	21
E	1.6	2.7	8	22
ESE	1.8	2.9	72	51
SE	1.4	2.8	1	1
SSE	.8	2.4	0	0
S	.6	1.8	0	0
SSW	.8	1.9	0	0
SW	.1	1.3	0	0
WSW	.5	1.4	0	0
W	.5	1.6	0	0
WNW	.1	1.6	0	0
NW	.4	1.7	0	0
NNW	.8	2.0	2	0
N	.8	1.9	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.4	0	0
NE	1.5	3.1	15	9
ENE	1.8	2.9	17	29
E	2.0	3.2	14	26
ESE	1.9	3.3	46	30
SE	1.2	2.7	0	0
SSE	1.0	2.4	0	0
S	1.0	2.4	0	0
SSW	1.1	2.5	0	0
SW	.4	1.4	0	0
WSW	.7	1.7	0	0
W	.7	1.8	0	0
WNW	.7	1.6	0	0
NW	.8	1.8	0	0
NNW	1.2	2.3	8	5
N	.7	1.8	0	0

LOCATION 18

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.3	2.1	0	0
NE	1.1	2.5	6	3
ENE	1.6	2.5	12	25
E	1.8	3.1	17	29
ESE	1.8	3.0	53	35
SE	1.2	2.6	0	0
SSE	.7	2.4	0	0
S	.9	2.3	0	0
SSW	1.2	2.2	0	1
SW	.6	1.4	0	0
WSW	.7	1.6	0	0
W	.6	1.6	0	0
WNW	.7	1.8	0	0
NW	.8	1.8	0	0
NNW	1.1	2.2	11	7
N	.6	1.8	0	0

TABLE E-173

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	2.1	0	0
NE	1.0	2.3	10	4
ENE	.8	2.0	0	2
E	.5	2.1	0	0
ESE	.8	2.1	0	0
SE	.9	2.3	0	0
SSE	.6	1.8	0	0
S	.7	2.3	0	0
SSW	.6	1.9	0	0
SW	.5	1.5	0	0
WSW	.6	1.7	0	0
W	.7	2.1	0	0
WNW	.6	1.6	0	0
NW	1.0	2.1	11	9
NNW	1.5	3.2	71	71
N	1.3	2.7	5	13

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 16

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.2	2.6	0	0
NE	1.7	3.7	25	17
ENE	2.1	3.4	17	28
E	2.0	3.5	5	18
ESE	2.0	3.4	28	15
SE	1.5	3.1	0	0
SSE	1.2	2.7	0	0
S	.9	2.5	0	0
SSW	1.1	2.9	0	1
SW	.5	1.8	0	0
WSW	1.2	2.5	4	0
W	.9	2.3	0	0
WNW	.9	2.2	1	0
NW	.9	2.5	3	3
NNW	1.3	2.9	14	9
N	1.4	3.2	2	9

LOCATION 17

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.1	2.9	0	0
NE	2.0	3.7	25	17
ENE	2.3	3.5	16	27
E	2.2	3.4	3	13
ESE	2.2	3.5	26	14
SE	1.8	3.4	0	1
SSE	1.4	3.0	0	0
S	1.0	2.8	0	0
SSW	1.1	2.8	0	0
SW	.6	1.9	0	0
WSW	1.0	2.6	1	0
W	.9	2.4	0	0
WNW	.9	2.4	1	0
NW	1.2	3.0	8	11
NNW	1.4	3.3	19	14
N	1.3	2.9	0	3

LOCATION 18

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.1	2.9	1	2
NE	1.5	3.0	14	9
ENE	2.0	3.0	11	24
E	2.0	3.3	5	18
ESE	2.1	3.3	36	22
SE	1.6	3.1	1	1
SSE	1.4	2.8	0	0
S	.9	2.5	0	0
SSW	1.0	2.3	0	0
SW	.5	2.0	0	0
WSW	1.2	2.6	8	1
W	1.0	2.7	0	5
WNW	.9	2.4	3	1
NW	1.1	2.4	3	4
NNW	1.2	3.1	16	12
N	.9	2.6	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 16

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	2.4	1	2
NE	1.1	2.4	15	10
ENE	1.4	2.3	5	18
E	1.6	2.7	5	19
ESE	1.8	2.9	59	41
SE	1.4	2.8	2	2
SSE	.8	2.4	0	0
S	.6	1.8	0	0
SSW	.8	1.9	0	0
SW	.1	1.3	0	0
WSW	.5	1.4	0	0
W	.5	1.6	0	0
WNW	.1	1.6	0	0
NW	.4	1.7	0	0
NNW	.8	2.0	12	8
N	.8	1.9	0	1

LOCATION 17

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.4	0	0
NE	1.5	3.1	20	13
ENE	1.8	2.9	11	24
E	2.0	3.2	9	22
ESE	1.9	3.3	47	30
SE	1.2	2.7	0	0
SSE	1.0	2.4	0	0
S	1.0	2.4	0	1
SSW	1.1	2.5	0	1
SW	.4	1.4	0	0
WSW	.7	1.7	0	0
W	.7	1.8	0	0
WNW	.7	1.6	0	0
NW	.8	1.8	0	0
NNW	1.2	2.3	11	7
N	.7	1.8	0	0

LOCATION 18

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.3	2.1	0	0
NE	1.1	2.5	13	8
ENE	1.6	2.5	7	20
E	1.8	3.1	12	25
ESE	1.8	3.0	46	29
SE	1.2	2.6	0	0
SSE	.7	2.4	0	0
S	.9	2.3	0	1
SSW	1.2	2.2	0	1
SW	.6	1.4	0	0
WSW	.7	1.6	0	0
W	.6	1.6	0	0
WNW	.7	1.8	2	1
NW	.8	1.8	1	1
NNW	1.1	2.2	16	12
N	.6	1.8	0	0

TABLE E-174

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.4	0	0
NE	1.3	2.5	19	10
ENE	.9	2.2	0	3
E	.7	1.7	0	0
ESE	.7	2.0	0	0
SE	.6	2.5	0	0
SSE	.4	1.9	0	0
S	.5	2.0	0	0
SSW	.8	1.8	0	0
SW	.3	1.5	0	0
WSW	.4	1.6	0	0
W	.9	2.5	0	1
WNW	.8	1.9	2	0
NW	1.2	2.7	37	50
NNW	1.3	2.8	40	33
N	1.0	2.5	0	2

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.6	4	4
NE	1.0	2.4	15	7
ENE	.7	2.6	0	4
E	1.0	2.6	0	5
ESE	1.0	2.5	12	4
SE	.7	1.9	0	0
SSE	.5	1.9	0	0
S	.6	1.7	0	0
SSW	.1	2.1	0	0
SW	.6	1.5	1	0
WSW	.1	1.7	0	0
W	.9	2.6	10	24
WNW	.7	1.5	4	1
NW	.9	2.3	24	28
NNW	1.0	2.4	28	19
N	.9	2.3	1	4

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	3.0	0	0
NE	2.1	3.7	24	17
ENE	2.1	3.4	15	27
E	2.0	3.2	1	11
ESE	2.2	3.4	35	21
SE	1.6	3.1	0	0
SSE	1.2	2.8	0	0
S	.7	2.1	0	0
SSW	.9	2.3	0	0
SW	.7	2.5	0	0
WSW	1.4	3.2	4	0
W	1.4	3.3	0	3
WNW	1.4	3.2	9	10
NW	1.4	2.7	5	8
NNW	1.3	3.3	6	2
N	.9	2.2	0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.9	0	0
NE	1.3	3.1	9	3
ENE	1.6	2.6	6	15
E	1.9	3.0	6	15
ESE	1.9	3.2	45	21
SE	1.5	2.9	0	0
SSE	1.0	2.4	0	0
S	.4	2.1	0	0
SSW	.6	2.0	0	0
SW	.6	1.5	0	0
WSW	1.2	2.5	5	0
W	1.2	2.6	1	6
WNW	1.4	2.5	28	39
NW	.8	2.0	0	0
NNW	.7	2.6	0	0
N	.6	2.1	0	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.3	3.9	21	10
NE	1.9	3.5	28	18
ENE	1.5	2.7	3	13
E	1.4	2.6	0	2
ESE	1.4	2.6	2	1
SE	1.0	2.3	0	0
SSE	1.1	2.7	0	0
S	1.1	2.3	0	0
SSW	1.5	2.8	1	2
SW	.9	2.1	0	0
WSW	1.3	2.7	7	1
W	1.4	3.1	4	16
WNW	1.2	3.0	5	3
NW	1.4	3.2	12	16
NNW	1.3	3.3	13	6
N	1.4	3.2	0	3

2000 FULL-BUILD PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.3	0	0
NE	1.6	3.2	23	16
ENE	1.7	2.9	15	26
E	1.8	3.2	12	25
ESE	1.7	3.1	30	18
SE	.9	2.5	0	0
SSE	.8	2.3	0	0
S	1.2	2.9	1	2
SSW	1.5	2.9	7	5
SW	.7	1.6	0	0
WSW	.9	2.0	1	0
W	1.0	2.1	0	1
WNW	.8	1.8	1	0
NW	.8	1.8	0	0
NNW	1.1	2.1	7	3
N	.8	1.9	0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.7	0	1
NE	.8	2.5	4	2
ENE	1.2	2.2	6	18
E	1.5	2.8	15	27
ESE	1.5	2.8	64	42
SE	.7	2.3	0	0
SSE	.3	2.2	0	0
S	.6	2.1	0	0
SSW	1.0	2.2	0	1
SW	.4	1.4	0	0
WSW	.8	1.6	2	0
W	.9	1.8	0	4
WNW	.8	1.7	3	2
NW	.5	1.8	0	0
NNW	.8	2.0	6	2
N	.7	1.9	0	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.4	4.0	31	32
NE	2.0	3.2	34	26
ENE	1.5	2.8	4	16
E	1.4	2.7	0	3
ESE	1.2	2.5	0	0
SE	1.2	2.8	0	0
SSE	1.4	2.9	0	0
S	1.3	2.6	1	2
SSW	1.7	2.8	18	9
SW	.7	1.9	0	0
WSW	.9	2.3	0	0
W	1.1	2.9	0	2
WNW	.7	1.8	0	0
NW	.9	2.3	23	23
NNW	1.0	2.4	25	13
N	.9	2.3	1	4

TABLE E-175

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.4	1	1
NE	1.3	2.5	14	6
ENE	.9	2.2	0	4
E	.7	1.7	0	0
ESE	.7	2.0	0	0
SE	.6	2.5	0	0
SSE	.4	1.9	0	0
S	.5	2.0	0	0
SSW	.8	1.8	0	0
SW	.3	1.5	0	0
WSW	.4	1.6	0	0
W	.9	2.5	1	4
WNW	.8	1.9	2	0
NW	1.2	2.7	40	51
NNW	1.3	2.8	41	32
N	1.0	2.5	0	3

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.6	3	2
NE	1.0	2.4	16	7
ENE	.7	2.6	2	8
E	1.0	2.6	1	5
ESE	1.0	2.5	9	2
SE	.7	1.9	0	0
SSE	.5	1.9	0	0
S	.6	1.7	0	0
SSW	.1	2.1	0	0
SW	.6	1.5	0	0
WSW	.1	1.7	0	0
W	.9	2.6	20	35
WNW	.7	1.5	0	0
NW	.9	2.3	23	23
NNW	1.0	2.4	25	13
N	.9	2.3	1	4

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	3.0	0	0
NE	2.1	3.7	24	16
ENE	2.1	3.4	8	20
E	2.0	3.2	0	5
ESE	2.2	3.4	15	7
SE	1.6	3.1	0	0
SSE	1.2	2.8	0	0
S	.7	2.1	0	0
SSW	.9	2.3	0	0
SW	.7	2.5	0	0
WSW	1.4	3.2	14	2
W	1.4	3.3	2	12
WNW	1.4	3.2	17	23
NW	1.4	2.7	6	7
NNW	1.3	3.3	13	7
N	.9	2.2	0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.9	1	1
NE	1.3	3.1	15	8
ENE	1.6	2.6	4	13
E	1.9	3.0	3	12
ESE	1.9	3.2	37	17
SE	1.5	2.9	0	0
SSE	1.0	2.4	0	0
S	.4	2.1	0	0
SSW	.6	2.0	0	0
SW	.6	1.5	0	0
WSW	1.2	2.5	10	1
W	1.2	2.6	3	12
WNW	1.4	2.5	24	33
NW	.8	2.0	0	0
NNW	.7	2.6	3	0
N	.6	2.1	0	0

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.3	3.9	11	9
NE	1.9	3.5	19	10
ENE	1.5	2.7	1	6
E	1.4	2.6	0	1
ESE	1.4	2.6	1	0
SE	1.0	2.3	0	0
SSE	1.1	2.7	0	0
S	1.1	2.3	0	0
SSW	1.5	2.8	0	1
SW	.9	2.1	0	0
WSW	1.3	2.7	4	0
W	1.4	3.1	5	17
WNW	1.2	3.0	15	15
NW	1.4	3.2	22	26
NNW	1.3	3.3	20	11
N	1.4	3.2	1	4

2000 FULL-BUILD PRE-MITIGATION

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.3	0	0
NE	1.6	3.2	29	21
ENE	1.7	2.9	11	24
E	1.8	3.2	8	20
ESE	1.7	3.1	26	15
SE	.9	2.5	0	0
SSE	.8	2.3	0	0
S	1.2	2.9	6	8
SSW	1.5	2.9	9	6
SW	.7	1.6	0	0
WSW	.9	2.0	1	0
W	1.0	2.1	0	2
WNW	.8	1.8	1	0
NW	.8	1.8	1	1
NNW	1.1	2.1	7	3
N	.8	1.9	0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.7	3	3
NE	.8	2.5	11	6
ENE	1.2	2.2	5	16
E	1.5	2.8	10	22
ESE	1.5	2.8	50	29
SE	.7	2.3	0	0
SSE	.3	2.2	0	0
S	.6	2.1	0	1
SSW	1.0	2.2	1	2
SW	.4	1.4	0	0
WSW	.8	1.6	1	0
W	.9	1.8	0	5
WNW	.8	1.7	7	6
NW	.5	1.8	1	1
NNW	.8	2.0	12	7
N	.7	1.9	0	1

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.4	4.0	26	23
NE	2.0	3.2	29	18
ENE	1.5	2.8	3	12
E	1.4	2.7	0	3
ESE	1.2	2.5	1	0
SE	1.2	2.8	0	0
SSE	1.4	2.9	1	0
S	1.3	2.6	2	3
SSW	1.7	2.8	7	4
SW	.7	1.9	0	0
WSW	.9	2.3	1	0
W	1.1	2.9	7	21
WNW	.7	1.8	0	0
NW	1.1	2.4	6	6
NNW	1.0	2.5	12	5
N	1.3	2.6	1	5

TABLE E-176

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.1	0	0
NE	.5	1.9	0	0
ENE	.6	1.9	0	2
E	.7	2.2	0	0
ESE	.9	1.9	6	1
SE	.1	1.6	0	0
SSE	.2	1.6	0	0
S	.1	1.6	0	0
SSW	.6	1.7	0	0
SW	.5	1.4	0	0
WSW	.2	1.4	0	0
W	.7	1.7	0	3
WNW	.5	1.4	0	0
NW	.7	1.9	6	4
NNW	1.2	2.5	80	87
N	.6	2.0	0	0

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.9	4	3
NE	1.4	3.0	28	16
ENE	.9	2.3	0	4
E	.8	2.2	0	0
ESE	.5	1.9	0	0
SE	.3	1.5	0	0
SSE	.5	1.7	0	0
S	.5	1.5	0	0
SSW	.8	1.7	0	0
SW	.5	1.3	0	0
WSW	.5	1.9	0	0
W	.6	1.9	0	0
WNW	1.1	2.5	38	54
NW	.8	2.3	2	1
NNW	1.1	2.6	25	15
N	1.1	3.1	2	7

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.7	8	8
NE	1.3	3.0	43	31
ENE	.9	2.3	3	12
E	.7	2.3	0	0
ESE	.7	1.9	0	0
SE	.9	2.2	0	0
SSE	.8	2.2	0	0
S	.3	1.8	0	0
SSW	.5	1.5	0	0
SW	.1	1.3	0	0
WSW	.6	1.5	1	0
W	.6	1.6	0	0
WNW	.7	1.6	5	3
NW	.7	1.9	3	4
NNW	.9	2.1	29	25
N	.9	2.5	2	10

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.5	0	0
NE	.1	1.6	0	0
ENE	.1	1.8	0	0
E	.1	1.9	0	0
ESE	.1	1.2	0	0
SE	.1	1.8	0	0
SSE	.1	1.7	0	0
S	.1	1.3	0	0
SSW	.1	1.8	0	0
SW	.3	1.4	0	0
WSW	.1	1.8	0	0
W	.4	1.5	0	9
WNW	.2	1.2	0	0
NW	.1	1.4	0	0
NNW	.1	1.7	0	0
N	.4	1.9	0	4

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.1	3.7	12	10
NE	2.1	3.7	31	19
ENE	1.6	3.1	2	10
E	1.3	2.7	0	0
ESE	.9	2.9	0	0
SE	.9	2.8	0	0
SSE	1.1	2.9	0	0
S	1.0	2.9	0	0
SSW	1.6	2.9	1	1
SW	.8	1.9	0	0
WSW	1.3	3.0	6	0
W	1.3	3.0	0	3
WNW	1.6	3.5	34	51
NW	1.2	3.0	2	1
NNW	1.4	3.1	12	4
N	1.0	3.1	0	0

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.9	3.6	12	14
NE	2.0	3.6	35	27
ENE	1.5	3.1	4	16
E	1.2	2.7	0	1
ESE	1.1	3.0	0	0
SE	1.4	3.3	0	0
SSE	1.4	3.3	0	0
S	1.4	2.8	2	4
SSW	1.8	3.1	22	10
SW	.6	1.7	0	0
WSW	.9	2.3	0	0
W	1.1	3.1	0	2
WNW	.9	2.2	1	0
NW	1.2	2.4	7	13
NNW	1.3	2.9	13	9
N	1.2	2.7	0	3

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.6	16	13
NE	1.3	2.5	37	23
ENE	.9	2.3	3	10
E	.4	1.5	0	0
ESE	.5	1.7	0	0
SE	.5	1.9	0	0
SSE	.6	2.3	0	0
S	.6	2.1	0	0
SSW	.7	1.9	0	0
SW	.5	1.6	0	0
WSW	.5	1.7	0	0
W	1.0	2.7	29	49
WNW	.7	2.0	3	1
NW	.7	2.1	1	0
NNW	.8	1.9	9	2
N	.8	2.2	0	2

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	3.2	0	0
NE	1.9	4.1	19	10
ENE	1.9	3.3	8	17
E	1.7	2.9	0	2
ESE	1.2	2.5	0	0
SE	.7	2.1	0	0
SSE	.1	1.8	0	0
S	.5	2.1	0	0
SSW	1.3	2.7	0	0
SW	.8	1.9	0	0
WSW	1.8	3.6	33	7
W	1.8	3.8	21	44
WNW	1.5	3.3	19	19
NW	1.0	2.0	0	0
NNW	.9	2.1	0	0
N	.6	1.7	0	0

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.7	0	0
NE	1.5	3.7	28	20
ENE	1.8	3.2	35	40
E	1.6	2.7	6	19
ESE	1.0	2.3	1	0
SE	.1	1.9	0	0
SSE	.5	2.0	0	0
S	1.1	2.9	1	2
SSW	1.4	2.8	17	8
SW	.7	1.6	0	0
WSW	.9	1.9	2	0
W	1.0	2.0	1	8
WNW	.8	1.7	2	1
NW	.8	1.9	1	1
NNW	.8	2.0	2	0
N	.8	1.9	0	0

TABLE E-177

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.1	1	1
NE	.5	1.9	5	1
ENE	.6	1.9	0	4
E	.7	2.2	0	3
ESE	.9	1.9	2	0
SE	.1	1.6	0	0
SSE	.2	1.6	0	0
S	.1	1.6	0	0
SSW	.6	1.7	0	0
SW	.5	1.4	0	0
WSW	.2	1.4	0	0
W	.7	1.7	0	0
WNW	.5	1.4	0	0
NW	.7	1.9	14	12
NNW	1.2	2.5	75	76
N	.6	2.0	0	1

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.9	3	3
NE	1.4	3.0	26	14
ENE	.9	2.3	1	6
E	.8	2.2	0	0
ESE	.5	1.9	0	0
SE	.3	1.5	0	0
SSE	.5	1.7	0	0
S	.5	1.5	0	0
SSW	.8	1.7	0	0
SW	.5	1.3	0	0
WSW	.5	1.9	0	0
W	.6	1.9	0	0
WNW	1.1	2.5	38	51
NW	.8	2.3	4	3
NNW	1.1	2.6	24	13
N	1.1	3.1	4	10

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.7	10	9
NE	1.3	3.0	40	28
ENE	.9	2.3	5	15
E	.7	2.3	0	2
ESE	.7	1.9	1	0
SE	.9	2.2	0	0
SSE	.8	2.2	1	0
S	.3	1.8	0	0
SSW	.5	1.5	0	0
SW	.1	1.3	0	0
WSW	.6	1.5	0	0
W	.6	1.6	0	0
WNW	.7	1.6	3	1
NW	.7	1.9	8	9
NNW	.9	2.1	27	21
N	.9	2.5	3	12

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.5	2	1
NE	.1	1.6	14	6
ENE	.1	1.8	35	34
E	.1	1.9	0	0
ESE	.1	1.2	0	0
SE	.1	1.8	0	0
SSE	.1	1.7	12	8
S	.1	1.3	0	0
SSW	.1	1.8	0	0
SW	.3	1.4	0	0
WSW	.1	1.8	0	0
W	.4	1.5	0	0
WNW	.2	1.2	0	0
NW	.1	1.4	19	17
NNW	.1	1.7	0	0
N	.4	1.9	19	33

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.1	3.7	7	6
NE	2.1	3.7	22	11
ENE	1.6	3.1	1	7
E	1.3	2.7	0	0
ESE	.9	2.9	0	0
SE	.9	2.8	0	0
SSE	1.1	2.9	0	0
S	1.0	2.9	0	0
SSW	1.6	2.9	0	1
SW	.8	1.9	0	0
WSW	1.3	3.0	7	0
W	1.3	3.0	1	4
WNW	1.6	3.5	43	63
NW	1.2	3.0	5	3
NNW	1.4	3.1	13	5
N	1.0	3.1	0	0

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.9	3.6	12	12
NE	2.0	3.6	31	20
ENE	1.5	3.1	5	15
E	1.2	2.7	0	1
ESE	1.1	3.0	4	1
SE	1.4	3.3	0	1
SSE	1.4	3.3	1	1
S	1.4	2.8	4	4
SSW	1.8	3.1	8	4
SW	.6	1.7	0	0
WSW	.9	2.3	1	0
W	1.1	3.1	5	18
WNW	.9	2.2	3	1
NW	1.2	2.4	7	8
NNW	1.3	2.9	18	11
N	1.2	2.7	0	2

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.6	9	7
NE	1.3	2.5	26	14
ENE	.9	2.3	4	11
E	.4	1.5	0	0
ESE	.5	1.7	0	0
SE	.5	1.9	0	0
SSE	.6	2.3	0	0
S	.6	2.1	1	1
SSW	.7	1.9	0	0
SW	.5	1.6	0	0
WSW	.5	1.7	0	0
W	1.0	2.7	34	53
WNW	.7	2.0	9	4
NW	.7	2.1	8	6
NNW	.8	1.9	8	2
N	.8	2.2	0	2

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	3.2	0	0
NE	1.9	4.1	25	14
ENE	1.9	3.3	6	14
E	1.7	2.9	0	1
ESE	1.2	2.5	0	0
SE	.7	2.1	0	0
SSE	.1	1.8	0	0
S	.5	2.1	0	0
SSW	1.3	2.7	0	0
SW	.8	1.9	0	0
WSW	1.8	3.6	27	5
W	1.8	3.8	18	38
WNW	1.5	3.3	24	27
NW	1.0	2.0	0	0
NNW	.9	2.1	0	0
N	.6	1.7	0	0

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.7	1	1
NE	1.5	3.7	41	30
ENE	1.8	3.2	27	34
E	1.6	2.7	3	13
ESE	1.0	2.3	2	1
SE	.1	1.9	0	0
SSE	.5	2.0	0	0
S	1.1	2.9	6	7
SSW	1.4	2.8	11	6
SW	.7	1.6	0	0
WSW	.9	1.9	1	0
W	1.0	2.0	0	4
WNW	.8	1.7	2	0
NW	.8	1.9	1	0
NNW	.8	2.0	4	1
N	.8	1.9	0	0

TABLE E-178

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.5	0	0
NE	1.1	2.4	6	3
ENE	.8	2.0	0	0
E	1.0	2.4	0	0
ESE	1.2	2.5	3	1
SE	1.2	3.0	0	0
SSE	1.0	2.7	0	0
S	.9	2.4	0	0
SSW	1.0	2.5	0	0
SW	1.0	2.7	6	2
WSW	1.5	3.1	44	17
W	1.1	2.5	1	8
WNW	1.3	3.0	33	64
NW	1.1	2.4	4	6
NNW	.9	2.3	2	0
N	.5	1.8	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.4	2.8	15	12
NE	1.3	2.5	26	15
ENE	.9	2.5	1	8
E	.5	1.6	0	0
ESE	.7	2.0	0	0
SE	.7	1.9	0	0
SSE	.7	2.2	0	0
S	.7	2.4	0	0
SSW	.7	2.2	0	0
SW	.6	1.8	0	0
WSW	.4	1.6	0	0
W	.8	2.4	0	1
WNW	.9	2.1	15	13
NW	.7	1.7	1	0
NNW	1.0	2.4	20	10
N	1.4	2.8	21	38

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.6	0	0
NE	.7	2.1	3	1
ENE	.8	2.2	1	6
E	.7	1.9	0	0
ESE	1.2	2.5	30	11
SE	.6	2.1	0	0
SSE	.9	2.2	0	0
S	.6	1.9	0	0
SSW	.6	1.8	0	0
SW	.5	1.8	0	0
WSW	.6	1.9	0	0
W	.5	1.8	0	0
WNW	1.0	2.5	46	71
NW	.6	2.0	0	0
NNW	.9	2.0	18	9
N	.9	2.5	0	3

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.4	0	0
NE	1.1	3.6	6	2
ENE	1.5	3.0	6	14
E	1.6	2.8	1	6
ESE	1.2	2.8	1	0
SE	.8	2.4	0	0
SSE	.8	2.1	0	0
S	.8	2.4	0	0
SSW	1.4	2.9	1	1
SW	.8	1.8	0	0
WSW	1.4	2.8	31	5
W	1.5	2.9	34	54
WNW	1.2	2.6	21	18
NW	.8	2.1	0	0
NNW	.7	2.0	0	0
N	.6	1.7	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	3.9	0	0
NE	2.5	4.6	52	39
ENE	2.2	3.8	30	37
E	1.2	2.6	0	0
ESE	.1	2.0	0	0
SE	.1	2.1	0	0
SSE	.9	2.5	0	0
S	1.2	2.7	0	0
SSW	1.6	3.0	3	3
SW	.7	1.8	0	0
WSW	1.3	2.7	6	1
W	1.4	2.8	3	17
WNW	1.0	2.6	2	1
NW	.8	2.5	0	0
NNW	.6	2.3	0	0
N	.4	1.8	0	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.6	3.9	14	11
NE	2.4	3.9	26	14
ENE	1.7	3.3	1	6
E	1.2	2.9	0	0
ESE	.7	2.5	0	0
SE	.6	2.5	0	0
SSE	1.2	3.0	0	0
S	1.1	2.6	0	0
SSW	1.5	3.0	0	0
SW	.7	1.9	0	0
WSW	1.5	3.1	4	0
W	1.8	3.8	5	14
WNW	1.4	3.5	4	1
NW	1.2	3.4	0	0
NNW	1.8	3.5	16	7
N	2.8	4.3	29	47

2000 FULL-BUILD PRE-MITIGATION

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.6	0	0
NE	1.1	2.9	8	5
ENE	1.4	3.0	14	28
E	1.4	2.8	4	17
ESE	1.2	2.6	8	5
SE	.9	2.3	0	0
SSE	1.0	2.5	0	0
S	1.3	2.7	10	15
SSW	1.6	2.7	47	16
SW	.6	1.5	0	0
WSW	.9	1.8	3	0
W	.8	1.9	0	1
WNW	.8	1.7	4	4
NW	.9	2.1	1	2
NNW	.8	2.0	3	1
N	.8	2.0	0	1

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	2.5	0	0
NE	1.9	4.4	31	26
ENE	2.2	3.9	36	45
E	1.2	2.6	0	1
ESE	.6	2.0	0	0
SE	.4	2.2	0	0
SSE	1.0	2.7	0	0
S	1.6	3.2	8	15
SSW	1.8	3.3	24	12
SW	.8	1.7	0	0
WSW	.7	1.7	0	0
W	.7	2.1	0	0
WNW	.8	2.3	0	0
NW	.9	2.3	0	0
NNW	.8	1.7	0	0
N	.7	2.2	0	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.5	4.0	15	11
NE	2.3	3.9	27	15
ENE	1.8	3.5	3	10
E	1.1	2.7	0	0
ESE	.9	2.9	0	0
SE	1.3	3.3	0	0
SSE	1.6	3.3	0	0
S	1.5	3.1	0	0
SSW	1.7	3.1	0	1
SW	.6	2.0	0	0
WSW	.9	2.0	0	0
W	1.1	2.6	0	0
WNW	1.0	2.7	0	0
NW	.6	2.0	2	1
NNW	.9	2.0	12	3
N	2.7	4.1	29	48

TABLE E-179

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.5	0	0
NE	1.1	2.4	5	2
ENE	.8	2.0	0	1
E	1.0	2.4	0	0
ESE	1.2	2.5	1	0
SE	1.2	3.0	0	0
SSE	1.0	2.7	0	0
S	.9	2.4	0	0
SSW	1.0	2.5	0	0
SW	1.0	2.7	11	4
WSW	1.5	3.1	37	11
W	1.1	2.5	1	6
WNW	1.3	3.0	38	72
NW	1.1	2.4	4	4
NNW	.9	2.3	3	0
N	.5	1.8	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.4	2.8	17	13
NE	1.3	2.5	24	13
ENE	.9	2.5	3	11
E	.5	1.6	0	0
ESE	.7	2.0	0	0
SE	.7	1.9	0	0
SSE	.7	2.2	0	0
S	.7	2.4	1	1
SSW	.7	2.2	0	0
SW	.6	1.8	0	0
WSW	.4	1.6	0	0
W	.8	2.4	3	9
WNW	.9	2.1	15	11
NW	.7	1.7	2	1
NNW	1.0	2.4	18	8
N	1.4	2.8	18	32

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.6	4	2
NE	.7	2.1	7	2
ENE	.8	2.2	2	7
E	.7	1.9	0	0
ESE	1.2	2.5	13	3
SE	.6	2.1	0	0
SSE	.9	2.2	0	0
S	.6	1.9	0	0
SSW	.6	1.8	0	0
SW	.5	1.8	0	0
WSW	.6	1.9	1	0
W	.5	1.8	0	0
WNW	1.0	2.5	54	74
NW	.6	2.0	2	1
NNW	.9	2.0	12	3
N	.9	2.5	4	9

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.4	0	0
NE	1.1	3.6	18	9
ENE	1.5	3.0	8	17
E	1.6	2.8	0	4
ESE	1.2	2.8	5	1
SE	.8	2.4	0	0
SSE	.8	2.1	0	0
S	.8	2.4	0	0
SSW	1.4	2.9	2	2
SW	.8	1.8	0	0
WSW	1.4	2.8	22	4
W	1.5	2.9	23	44
WNW	1.2	2.6	19	18
NW	.8	2.1	0	0
NNW	.7	2.0	1	0
N	.6	1.7	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	3.9	2	2
NE	2.5	4.6	53	39
ENE	2.2	3.8	24	32
E	1.2	2.6	0	1
ESE	.1	2.0	0	0
SE	.1	2.1	0	0
SSE	.9	2.5	0	0
S	1.2	2.7	0	1
SSW	1.6	3.0	2	3
SW	.7	1.8	0	0
WSW	1.3	2.7	7	1
W	1.4	2.8	4	18
WNW	1.0	2.6	4	2
NW	.8	2.5	0	0
NNW	.6	2.3	1	0
N	.4	1.8	0	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.6	3.9	8	6
NE	2.4	3.9	19	9
ENE	1.7	3.3	1	7
E	1.2	2.9	0	0
ESE	.7	2.5	0	0
SE	.6	2.5	0	0
SSE	1.2	3.0	0	0
S	1.1	2.6	0	0
SSW	1.5	3.0	0	0
SW	.7	1.9	0	0
WSW	1.5	3.1	5	0
W	1.8	3.8	11	24
WNW	1.4	3.5	15	12
NW	1.2	3.4	5	3
NNW	1.8	3.5	23	13
N	2.8	4.3	13	25

2000 FULL-BUILD PRE-MITIGATION

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.6	2	2
NE	1.1	2.9	16	10
ENE	1.4	3.0	17	29
E	1.4	2.8	3	15
ESE	1.2	2.6	12	6
SE	.9	2.3	0	0
SSE	1.0	2.5	1	0
S	1.3	2.7	12	14
SSW	1.6	2.7	21	9
SW	.6	1.5	0	0
WSW	.9	1.8	1	0
W	.8	1.9	0	1
WNW	.8	1.7	3	2
NW	.9	2.1	5	7
NNW	.8	2.0	5	1
N	.8	2.0	0	1

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	2.5	0	0
NE	1.9	4.4	45	35
ENE	2.2	3.9	31	39
E	1.2	2.6	0	1
ESE	.6	2.0	0	0
SE	.4	2.2	0	0
SSE	1.0	2.7	0	0
S	1.6	3.2	10	15
SSW	1.8	3.3	11	7
SW	.8	1.7	0	0
WSW	.7	1.7	0	0
W	.7	2.1	0	0
WNW	.8	2.3	1	1
NW	.9	2.3	1	1
NNW	.8	1.7	0	0
N	.7	2.2	0	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.5	4.0	10	9
NE	2.3	3.9	24	13
ENE	1.8	3.5	4	13
E	1.1	2.7	0	0
ESE	.9	2.9	0	0
SE	1.3	3.3	0	0
SSE	1.6	3.3	0	0
S	1.5	3.1	0	0
SSW	1.7	3.1	0	1
SW	.6	2.0	0	0
WSW	.9	2.0	0	0
W	1.1	2.6	0	0
WNW	1.0	2.7	2	0
NW	1.4	3.2	10	9
NNW	1.8	3.5	31	22
N	2.7	4.1	17	32

TABLE E-180

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	3.2	0	0
NE	2.3	4.1	28	25
ENE	1.8	3.7	4	18
E	.3	2.1	0	0
ESE	1.1	2.8	0	0
SE	2.0	3.7	0	1
SSE	2.4	4.0	3	4
S	2.2	3.8	18	33
SSW	2.4	3.7	47	19
SW	1.0	2.0	0	0
WSW	1.0	2.4	0	0
W	1.1	2.6	0	0
WNW	1.0	3.1	0	0
NW	.8	1.6	0	0
NNW	.4	1.3	0	0
N	.6	1.7	0	0

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.7	0	0
NE	2.2	4.0	24	18
ENE	1.8	3.6	3	16
E	.5	1.8	0	0
ESE	1.4	3.3	0	0
SE	2.2	3.9	2	2
SSE	2.6	4.1	4	4
S	2.4	3.8	34	46
SSW	2.3	3.4	33	14
SW	.8	2.2	0	0
WSW	.6	1.5	0	0
W	.7	1.8	0	0
WNW	.9	2.5	0	0
NW	.8	1.8	0	0
NNW	.6	1.7	0	0
N	.6	1.6	0	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.4	1	1
NE	1.0	2.3	16	10
ENE	1.1	2.5	11	23
E	.6	1.7	0	0
ESE	1.1	2.2	23	12
SE	1.0	2.2	0	0
SSE	1.1	2.4	2	1
S	1.0	2.3	4	6
SSW	.8	2.4	0	0
SW	.8	2.2	11	5
WSW	.7	2.0	1	0
W	.7	2.1	0	2
WNW	.8	2.1	9	10
NW	.8	1.8	5	7
NNW	.6	2.4	14	9
N	1.0	2.3	2	11

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.4	3.7	10	9
NE	2.4	4.2	28	17
ENE	2.1	3.8	9	19
E	1.5	2.9	0	0
ESE	1.7	3.2	2	1
SE	1.9	3.4	0	0
SSE	1.9	3.6	1	0
S	1.6	3.0	0	1
SSW	1.8	3.1	1	1
SW	.8	1.9	0	0
WSW	1.3	2.8	1	0
W	1.3	2.9	0	0
WNW	1.4	3.0	4	1
NW	1.4	2.6	2	1
NNW	1.9	3.1	29	22
N	2.4	3.7	13	28

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.6	4.0	5	4
NE	2.5	4.0	16	8
ENE	2.0	3.7	1	5
E	1.5	3.1	0	0
ESE	2.0	3.6	1	0
SE	2.1	3.5	0	0
SSE	2.2	3.6	0	0
S	1.9	3.4	0	0
SSW	1.8	3.1	0	0
SW	.8	1.6	0	0
WSW	.8	1.8	0	0
W	.6	2.0	0	0
WNW	1.7	3.8	6	2
NW	2.0	3.6	9	8
NNW	2.6	3.8	45	39
N	3.0	4.2	16	32

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	1	2
NE	1.0	2.3	23	16
ENE	.9	2.1	7	20
E	.1	1.6	0	0
ESE	.9	1.9	13	8
SE	.8	2.1	0	0
SSE	1.0	2.4	2	2
S	.8	2.1	1	3
SSW	.8	2.1	1	2
SW	.8	2.1	20	11
WSW	.6	2.0	2	0
W	.7	2.0	0	6
WNW	.6	2.3	4	5
NW	.7	2.0	4	6
NNW	.7	2.0	14	11
N	.1	1.7	0	0

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.7	2.9	4	4
NE	2.0	3.4	29	17
ENE	1.6	3.2	4	12
E	1.3	2.9	0	1
ESE	1.4	2.4	3	1
SE	1.3	2.5	0	0
SSE	1.3	2.7	0	0
S	1.2	2.5	0	0
SSW	1.5	2.8	2	2
SW	.8	2.1	0	0
WSW	1.3	3.2	8	1
W	1.6	3.4	17	35
WNW	1.3	2.5	14	11
NW	.9	2.0	0	0
NNW	1.4	2.4	14	6
N	1.7	3.0	4	11

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.5	2.9	4	4
NE	1.6	3.2	22	15
ENE	1.3	2.9	2	10
E	1.0	2.4	0	0
ESE	1.2	2.7	2	1
SE	1.3	2.9	0	0
SSE	1.5	3.3	1	1
S	1.6	3.1	12	14
SSW	1.6	3.1	16	7
SW	.7	2.2	0	0
WSW	1.0	2.3	1	0
W	.8	2.0	0	0
WNW	1.0	2.8	5	4
NW	1.2	2.8	11	17
NNW	1.2	2.7	16	11
N	1.5	2.9	4	14

TABLE E-181

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	3.2	0	1
NE	2.3	4.1	33	26
ENE	1.8	3.7	9	23
E	.3	2.1	0	0
ESE	1.1	2.8	1	0
SE	2.0	3.7	1	1
SSE	2.4	4.0	3	3
S	2.2	3.8	19	27
SSW	2.4	3.7	31	13
SW	1.0	2.0	0	0
WSW	1.0	2.4	1	0
W	1.1	2.6	0	1
WNW	1.0	3.1	3	3
NW	.8	1.6	0	0
NNW	.4	1.3	0	0
N	.6	1.7	0	0

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.7	0	0
NE	2.2	4.0	31	24
ENE	1.8	3.6	8	22
E	.5	1.8	0	0
ESE	1.4	3.3	6	3
SE	2.2	3.9	4	3
SSE	2.6	4.1	4	3
S	2.4	3.8	28	35
SSW	2.3	3.4	16	9
SW	.8	2.2	0	0
WSW	.6	1.5	0	0
W	.7	1.8	0	0
WNW	.9	2.5	1	0
NW	.8	1.8	0	0
NNW	.6	1.7	0	0
N	.6	1.6	0	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.4	3	3
NE	1.0	2.3	16	10
ENE	1.1	2.5	14	24
E	.6	1.7	0	0
ESE	1.1	2.2	9	4
SE	1.0	2.2	0	0
SSE	1.1	2.4	1	1
S	1.0	2.3	4	5
SSW	.8	2.4	0	1
SW	.8	2.2	3	1
WSW	.7	2.0	6	1
W	.7	2.1	1	5
WNW	.8	2.1	14	15
NW	.8	1.8	6	7
NNW	.9	2.4	17	10
N	1.0	2.3	3	11

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.4	3.7	8	7
NE	2.4	4.2	26	16
ENE	2.1	3.8	10	20
E	1.5	2.9	0	1
ESE	1.7	3.2	3	1
SE	1.9	3.4	0	0
SSE	1.9	3.6	1	0
S	1.6	3.0	1	1
SSW	1.8	3.1	0	1
SW	.8	1.9	0	0
WSW	1.3	2.8	3	0
W	1.3	2.9	0	2
WNW	1.4	3.0	14	14
NW	1.4	2.6	1	1
NNW	1.9	3.1	25	18
N	2.4	3.7	7	18

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.6	4.0	4	17
NE	2.5	4.0	16	25
ENE	2.0	3.7	2	27
E	1.5	3.1	0	3
ESE	2.0	3.6	2	11
SE	2.1	3.5	0	1
SSE	2.2	3.6	0	2
S	1.9	3.4	0	10
SSW	1.8	3.1	0	3
SW	.8	1.6	0	0
WSW	.8	1.8	0	0
W	.6	2.0	0	0
WNW	1.7	3.8	21	199
NW	2.0	3.6	12	128
NNW	2.6	3.8	32	115
N	3.0	4.2	9	76

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	1	1
NE	1.0	2.3	20	12
ENE	.9	2.1	3	13
E	.1	1.6	0	0
ESE	.9	1.9	4	1
SE	.8	2.1	0	0
SSE	1.0	2.4	1	1
S	.8	2.1	2	3
SSW	.8	2.1	0	1
SW	.8	2.1	25	11
WSW	.6	2.0	8	1
W	.7	2.0	1	10
WNW	.6	2.3	24	40
NW	.7	2.0	1	1
NNW	.7	2.0	7	3
N	.1	1.7	0	0

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.7	2.9	2	2
NE	2.0	3.4	23	12
ENE	1.6	3.2	4	12
E	1.3	2.9	0	1
ESE	1.4	2.4	1	0
SE	1.3	2.5	0	0
SSE	1.3	2.7	0	0
S	1.2	2.5	0	0
SSW	1.5	2.8	0	1
SW	.8	2.1	0	0
WSW	1.3	3.2	14	1
W	1.6	3.4	30	52
WNW	1.3	2.5	14	11
NW	.9	2.0	0	0
NNW	1.4	2.4	9	2
N	1.7	3.0	1	5

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.5	2.9	2	3
NE	1.6	3.2	23	14
ENE	1.3	2.9	4	13
E	1.0	2.4	0	0
ESE	1.2	2.7	2	0
SE	1.3	2.9	0	0
SSE	1.5	3.3	1	1
S	1.6	3.1	7	7
SSW	1.6	3.1	6	4
SW	.7	2.2	0	0
WSW	1.0	2.3	2	0
W	.8	2.0	0	0
WNW	1.0	2.8	15	16
NW	1.2	2.8	18	24
NNW	1.2	2.7	16	9
N	1.5	2.9	2	9

TABLE E-182

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.6	4	4
NE	1.5	2.6	28	18
ENE	1.5	2.8	22	29
E	.5	2.0	0	0
ESE	.4	1.5	0	0
SE	1.1	2.1	0	0
SSE	.9	2.1	0	0
S	.9	2.1	0	0
SSW	.8	1.9	0	0
SW	1.0	2.1	11	3
WSW	.7	2.1	0	0
W	1.0	2.1	1	6
WNW	1.1	2.8	24	32
NW	.9	1.8	5	5
NNW	.6	2.0	1	0
N	.1	1.8	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	2	1
NE	.5	1.6	2	0
ENE	.7	1.8	1	6
E	.6	1.8	0	0
ESE	.7	1.7	2	0
SE	.8	2.2	0	0
SSE	.8	2.0	0	0
S	.6	2.1	0	0
SSW	.6	2.4	0	0
SW	.6	2.0	2	0
WSW	.5	2.1	1	0
W	.6	1.8	0	1
WNW	.9	2.3	66	86
NW	.6	1.8	1	0
NNW	.7	2.0	14	3
N	.8	2.0	2	5

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.7	3.3	8	6
NE	1.6	2.9	22	12
ENE	1.5	2.9	4	12
E	.7	2.1	0	0
ESE	1.2	2.6	1	0
SE	1.1	2.9	0	0
SSE	1.1	2.8	0	0
S	1.2	3.1	0	0
SSW	1.0	2.5	0	0
SW	.6	1.8	0	0
WSW	.6	2.0	0	0
W	.7	2.0	0	0
WNW	1.0	2.1	2	0
NW	1.1	2.2	3	2
NNW	1.6	2.7	41	33
N	1.9	3.1	18	34

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.4	0	0
NE	1.4	2.6	10	2
ENE	1.6	2.7	5	8
E	.8	2.3	0	0
ESE	.7	1.5	0	0
SE	1.1	2.1	0	0
SSE	1.1	2.0	0	0
S	1.0	1.9	0	0
SSW	1.0	2.6	0	0
SW	1.0	2.2	1	0
WSW	.9	1.9	0	0
W	1.1	2.6	0	0
WNW	1.8	3.8	85	91
NW	.7	1.8	0	0
NNW	.8	1.8	0	0
N	.8	1.9	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.2	0	0
NE	1.0	2.1	3	0
ENE	.7	2.2	0	0
E	.9	2.2	0	0
ESE	.9	2.0	0	0
SE	.8	2.2	0	0
SSE	.9	2.0	0	0
S	.8	1.8	0	0
SSW	.8	2.1	0	0
SW	.5	2.5	0	0
WSW	.6	1.6	0	0
W	.9	2.7	0	0
WNW	1.7	3.4	96	101
NW	1.0	2.5	2	0
NNW	.7	2.0	0	0
N	.8	2.3	0	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.9	3.2	4	3
NE	1.3	2.6	2	0
ENE	.1	2.3	0	0
E	.5	2.1	0	0
ESE	1.7	3.5	3	1
SE	1.8	3.3	0	0
SSE	1.7	3.6	0	0
S	1.3	3.2	0	0
SSW	.7	2.3	0	0
SW	.6	2.0	0	0
WSW	1.0	2.5	0	0
W	1.1	3.4	0	0
WNW	1.7	3.1	31	37
NW	1.5	2.5	5	3
NNW	2.0	3.1	44	35
N	2.2	3.3	10	20

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.6	0	0
NE	1.8	3.2	14	5
ENE	1.8	3.1	3	9
E	.6	2.0	0	0
ESE	.9	1.8	0	0
SE	1.4	2.4	0	0
SSE	1.6	3.0	0	0
S	1.4	3.2	0	0
SSW	1.4	2.7	0	0
SW	1.3	2.9	2	0
WSW	1.2	2.7	1	0
W	1.6	3.6	3	5
WNW	2.0	4.4	60	74
NW	1.6	3.1	14	7
NNW	1.1	2.6	1	0
N	.6	2.1	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.2	0	0
NE	.9	2.1	0	0
ENE	.7	1.8	0	0
E	.7	1.9	0	0
ESE	1.1	2.2	0	0
SE	1.3	2.4	0	0
SSE	1.4	3.1	0	0
S	1.2	2.8	0	0
SSW	1.1	2.4	0	0
SW	.9	2.9	0	0
WSW	1.0	2.4	0	0
W	1.8	3.7	33	42
WNW	1.6	3.6	34	31
NW	1.7	2.9	33	28
NNW	.9	2.5	0	0
N	.7	2.1	0	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.2	3.7	4	4
NE	1.5	2.9	3	1
ENE	.6	2.2	0	0
E	.8	2.3	0	0
ESE	1.9	3.5	3	1
SE	1.6	3.2	0	0
SSE	1.7	3.7	0	0
S	.8	2.7	0	0
SSW	.6	1.7	0	0
SW	.4	1.4	0	0
WSW	.8	1.7	0	0
W	.7	2.0	0	0
WNW	2.0	3.2	32	39
NW	1.7	3.0	8	6
NNW	2.3	3.3	42	32
N	2.4	3.5	8	18

TABLE E-183

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.6	3	2
NE	1.5	2.6	20	9
ENE	1.5	2.8	15	20
E	.5	2.0	0	0
ESE	.4	1.5	0	0
SE	1.1	2.1	0	0
SSE	.9	2.1	0	0
S	.9	2.1	0	0
SSW	.8	1.9	0	0
SW	1.0	2.1	9	2
WSW	.7	2.1	1	0
W	1.0	2.1	1	2
WNW	1.1	2.8	50	65
NW	.9	1.8	0	0
NNW	.6	2.0	0	0
N	.1	1.8	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	1	0
NE	.5	1.6	2	0
ENE	.7	1.8	0	3
E	.6	1.8	0	0
ESE	.7	1.7	0	0
SE	.8	2.2	0	0
SSE	.8	2.0	0	0
S	.6	2.1	0	0
SSW	.6	2.4	2	1
SW	.6	2.0	5	0
WSW	.5	2.1	7	0
W	.6	1.8	0	1
WNW	.9	2.3	73	93
NW	.6	1.8	0	0
NNW	.7	2.0	5	0
N	.8	2.0	1	3

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.7	3.3	11	10
NE	1.6	2.9	24	14
ENE	1.5	2.9	9	16
E	.7	2.1	0	0
ESE	1.2	2.6	2	1
SE	1.1	2.9	0	0
SSE	1.1	2.8	0	0
S	1.2	3.1	6	5
SSW	1.0	2.5	0	0
SW	.6	1.8	0	0
WSW	.6	2.0	0	0
W	.7	2.0	0	0
WNW	1.0	2.1	4	1
NW	1.1	2.2	4	3
NNW	1.6	2.7	26	18
N	1.9	3.1	14	29

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.4	0	0
NE	1.4	2.6	6	1
ENE	1.6	2.7	1	4
E	.8	2.3	0	0
ESE	.7	1.5	0	0
SE	1.1	2.1	0	0
SSE	1.1	2.0	0	0
S	1.0	1.9	0	0
SSW	1.0	2.6	0	0
SW	1.0	2.2	1	0
WSW	.9	1.9	0	0
W	1.1	2.6	0	0
WNW	1.8	3.8	92	96
NW	.7	1.8	0	0
NNW	.8	1.8	0	0
N	.8	1.9	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.2	0	0
NE	1.0	2.1	3	0
ENE	.7	2.2	0	0
E	.9	2.2	0	0
ESE	.9	2.0	0	0
SE	.8	2.2	0	0
SSE	.9	2.0	0	0
S	.8	1.8	0	0
SSW	.8	2.1	0	0
SW	.5	2.5	0	0
WSW	.8	1.8	0	0
W	.9	2.7	1	1
WNW	1.7	3.4	89	99
NW	1.0	2.5	5	1
NNW	.7	2.0	2	0
N	.8	2.3	0	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.9	3.2	5	4
NE	1.3	2.6	5	1
ENE	.1	2.3	0	0
E	.5	2.1	0	0
ESE	1.7	3.5	7	2
SE	1.8	3.3	0	0
SSE	1.7	3.6	1	0
S	1.3	3.2	1	1
SSW	.7	2.3	0	0
SW	.6	2.0	0	0
WSW	1.0	2.5	1	0
W	1.1	3.4	0	1
WNW	1.7	3.1	41	57
NW	1.5	2.5	3	2
NNW	2.0	3.1	31	20
N	2.2	3.3	5	12

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.6	0	1
NE	1.8	3.2	7	12
ENE	1.8	3.1	1	21
E	.6	2.0	0	0
ESE	.9	1.8	0	0
SE	1.4	2.4	0	0
SSE	1.6	3.0	0	1
S	1.4	3.2	0	4
SSW	1.4	2.7	0	1
SW	1.3	2.9	3	12
WSW	1.2	2.7	1	3
W	1.6	3.6	5	132
WNW	2.0	4.4	75	487
NW	1.6	3.1	5	73
NNW	1.1	2.6	2	6
N	.6	2.1	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.2	0	0
NE	.9	2.1	0	0
ENE	.7	1.8	0	0
E	.7	1.9	0	0
ESE	1.1	2.2	0	0
SE	1.3	2.4	0	0
SSE	1.4	3.1	0	0
S	1.2	2.8	0	0
SSW	1.1	2.4	0	0
SW	.9	2.9	2	0
WSW	1.0	2.4	1	0
W	1.8	3.7	38	47
WNW	1.6	3.6	39	41
NW	1.7	2.9	16	12
NNW	.9	2.5	2	0
N	.7	2.1	0	0

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.2	3.7	5	4
NE	1.5	2.9	6	2
ENE	.6	2.2	0	0
E	.8	2.3	0	0
ESE	1.9	3.5	6	2
SE	1.6	3.2	0	0
SSE	1.7	3.7	1	0
S	.8	2.7	0	0
SSW	.6	1.7	0	0
SW	.4	1.4	0	0
WSW	.8	1.7	0	0
W	.7	2.0	0	0
WNW	2.0	3.2	36	49
NW	1.7	3.0	9	8
NNW	2.3	3.3	32	23
N	2.4	3.5	5	13

TABLE E-184

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.5	2.9	6	9
NE	1.5	3.0	19	14
ENE	1.4	3.1	5	19
E	1.0	2.6	0	0
ESE	1.8	3.9	57	43
SE	1.7	3.9	4	3
SSE	1.2	3.1	0	0
S	.4	2.3	0	0
SSW	.6	2.1	0	0
SW	.1	1.4	0	0
WSW	.1	1.8	0	0
W	.3	2.0	0	0
WNW	.6	1.7	0	0
NW	.7	2.2	0	0
NNW	1.0	2.2	7	4
N	1.2	2.2	1	7

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.4	7	4
NE	.4	2.0	0	0
ENE	.4	2.0	0	0
E	.5	1.9	0	0
ESE	.8	2.4	1	0
SE	.9	2.4	0	0
SSE	.7	2.0	0	0
S	.7	1.9	0	0
SSW	.8	2.0	0	0
SW	.5	1.4	0	0
WSW	.5	1.5	0	0
W	.6	1.6	3	7
WNW	.9	2.0	35	33
NW	.6	2.0	1	0
NNW	.7	1.8	10	2
N	1.4	2.3	39	53

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.2	11	10
NE	1.2	2.4	35	23
ENE	1.3	2.6	35	38
E	.9	2.2	0	4
ESE	.8	1.7	2	1
SE	.5	2.0	0	0
SSE	.6	1.7	0	0
S	.3	1.7	0	0
SSW	.3	1.7	0	0
SW	.3	1.2	0	0
WSW	.3	1.4	0	0
W	.4	1.9	0	0
WNW	.7	1.7	13	13
NW	.6	2.0	1	0
NNW	.3	1.9	0	0
N	.8	2.0	1	5

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	0	0
NE	1.0	3.0	7	4
ENE	1.7	3.1	32	41
E	2.0	3.2	64	55
ESE	.1	.4	0	0
SE	.1	1.0	0	0
SSE	.1	1.0	0	0
S	.1	.9	0	0
SSW	1.0	1.8	0	1
SW	.4	1.2	0	0
WSW	.1	1.4	0	0
W	.1	1.1	0	0
WNW	.1	1.0	0	0
NW	.1	1.1	0	0
NNW	.7	1.7	0	0
N	.7	1.5	0	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.2	0	0
NE	.7	2.5	0	0
ENE	1.4	2.8	4	16
E	1.7	3.0	8	22
ESE	2.0	3.1	82	56
SE	1.2	2.6	0	0
SSE	.9	2.3	0	0
S	1.0	2.5	0	0
SSW	1.4	2.5	3	4
SW	.5	1.4	0	0
WSW	.8	1.6	0	0
W	.6	1.6	0	0
WNW	.7	1.7	0	0
NW	.5	1.6	0	0
NNW	.6	1.6	0	0
N	1.2	2.1	0	4

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.8	1	1
NE	1.1	2.2	25	14
ENE	1.2	2.3	23	28
E	1.1	2.0	5	12
ESE	1.0	1.7	10	3
SE	.5	1.3	0	0
SSE	.5	1.5	0	0
S	.6	1.6	0	0
SSW	.7	1.5	0	0
SW	.3	1.2	0	0
WSW	.7	1.3	3	0
W	.8	1.6	2	8
WNW	.8	1.7	26	31
NW	.6	1.7	1	0
NNW	.5	1.3	0	0
N	.7	1.6	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.9	0	0
NE	1.1	2.8	7	3
ENE	1.7	3.1	26	36
E	1.9	3.2	37	41
ESE	1.5	2.8	28	17
SE	.7	1.8	0	0
SSE	.8	1.9	0	0
S	.8	1.9	0	0
SSW	.8	1.6	0	0
SW	.6	1.3	0	0
WSW	.4	1.4	0	0
W	.9	2.4	0	1
WNW	.9	2.2	3	2
NW	.5	1.6	0	0
NNW	.7	1.6	0	0
N	.7	1.6	0	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.2	0	0
NE	.9	2.3	2	0
ENE	1.6	2.8	9	21
E	2.0	3.4	24	31
ESE	1.9	3.1	58	35
SE	1.3	2.6	0	0
SSE	.8	2.7	0	0
S	1.2	2.8	0	1
SSW	1.1	2.2	0	0
SW	.4	1.4	0	0
WSW	.5	1.4	0	0
W	.8	2.3	0	0
WNW	.8	2.0	0	0
NW	.4	1.9	0	0
NNW	1.1	2.2	7	3
N	1.4	2.7	1	8

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.1	0	0
NE	1.1	2.2	17	7
ENE	1.3	2.7	16	22
E	1.2	2.0	1	7
ESE	1.2	1.9	18	5
SE	.1	2.3	0	0
SSE	.6	1.6	0	0
S	.8	1.8	0	0
SSW	.8	1.8	0	0
SW	.3	1.2	0	0
WSW	.2	1.3	0	0
W	1.1	2.0	20	34
WNW	1.0	2.2	25	23
NW	.5	2.0	0	0
NNW	.6	1.7	1	0
N	.8	1.7	0	1

TABLE E-185

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.5	2.9	3	5
NE	1.5	3.0	16	12
ENE	1.4	3.1	5	19
E	1.0	2.6	0	2
ESE	1.8	3.9	66	53
SE	1.7	3.9	6	4
SSE	1.2	3.1	1	1
S	.4	2.3	0	0
SSW	.6	2.1	0	0
SW	.1	1.4	0	0
WSW	.1	1.8	0	0
W	.3	2.0	0	0
WNW	.6	1.7	0	0
NW	.7	2.2	0	0
NNW	1.0	2.2	4	2
N	1.2	2.2	0	2

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.4	6	5
NE	.4	2.0	8	3
ENE	.4	2.0	0	3
E	.5	1.9	0	0
ESE	.8	2.4	18	6
SE	.9	2.4	1	0
SSE	.7	2.0	0	0
S	.7	1.9	0	0
SSW	.8	2.0	0	1
SW	.5	1.4	0	0
WSW	.5	1.5	0	0
W	.8	1.9	3	10
WNW	.9	2.0	30	36
NW	.6	2.0	5	3
NNW	.7	1.8	12	4
N	1.4	2.3	15	29

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.2	8	8
NE	1.2	2.4	31	20
ENE	1.3	2.6	32	36
E	.9	2.2	1	8
ESE	.8	1.7	2	1
SE	.5	2.0	0	0
SSE	.6	1.7	0	0
S	.3	1.7	0	0
SSW	.3	1.7	0	0
SW	.3	1.2	0	0
WSW	.3	1.4	0	0
W	.4	1.9	0	0
WNW	.7	1.7	9	7
NW	.6	2.0	7	7
NNW	.3	1.9	6	1
N	.8	2.0	2	8

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	0	0
NE	1.0	3.0	19	13
ENE	1.7	3.1	35	41
E	2.0	3.2	45	45
ESE	.1	.4	0	0
SE	.1	1.0	0	0
SSE	.1	1.0	0	0
S	.1	.9	0	0
SSW	1.0	1.8	0	0
SW	.4	1.2	0	0
WSW	.1	1.4	0	0
W	.1	1.1	0	0
WNW	.1	1.0	0	0
NW	.1	1.1	0	0
NNW	.7	1.7	2	0
N	.7	1.5	0	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.2	0	0
NE	.7	2.5	7	3
ENE	1.4	2.8	13	25
E	1.7	3.0	10	23
ESE	2.0	3.1	61	39
SE	1.2	2.6	0	0
SSE	.9	2.3	0	0
S	1.0	2.5	2	3
SSW	1.4	2.5	4	4
SW	.5	1.4	0	0
WSW	.8	1.6	0	0
W	.6	1.6	0	0
WNW	.7	1.7	1	0
NW	.5	1.6	0	0
NNW	.6	1.6	2	0
N	.7	1.6	0	0

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.8	2	2
NE	1.1	2.2	29	16
ENE	1.2	2.3	24	28
E	1.1	2.0	2	9
ESE	1.0	1.7	5	1
SE	.5	1.3	0	0
SSE	.5	1.5	0	0
S	.6	1.6	0	0
SSW	.7	1.5	0	0
SW	.3	1.2	0	0
WSW	.7	1.3	1	0
W	.8	1.6	0	0
WNW	.8	1.7	34	41
NW	.6	1.7	3	1
NNW	.5	1.3	0	0
N	.7	1.6	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.9	0	0
NE	1.1	2.8	14	8
ENE	1.7	3.1	29	36
E	1.9	3.2	23	30
ESE	1.5	2.8	24	12
SE	.7	1.8	0	0
SSE	.8	1.9	0	0
S	.8	1.9	0	0
SSW	.8	1.6	0	0
SW	.6	1.3	0	0
WSW	.4	1.4	0	0
W	.9	2.4	0	5
WNW	.9	2.2	8	7
NW	.5	1.6	0	0
NNW	.7	1.6	1	0
N	.7	1.6	0	0

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.2	0	0
NE	.9	2.3	6	3
ENE	1.6	2.8	13	24
E	2.0	3.4	16	26
ESE	1.9	3.1	41	21
SE	1.3	2.6	0	0
SSE	.8	2.7	0	0
S	1.2	2.8	4	5
SSW	1.1	2.2	0	0
SW	.4	1.4	0	0
WSW	.5	1.4	0	0
W	.8	2.3	0	0
WNW	.8	2.0	0	0
NW	.4	1.9	0	0
NNW	1.1	2.2	14	8
N	1.4	2.7	3	12

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.1	2	1
NE	1.1	2.2	20	9
ENE	1.3	2.7	17	23
E	1.2	2.0	0	4
ESE	1.2	1.9	7	1
SE	.1	2.3	0	0
SSE	.6	1.6	0	0
S	.8	1.8	0	0
SSW	.8	1.8	0	0
SW	.3	1.2	0	0
WSW	.2	1.3	0	0
W	1.1	2.0	13	23
WNW	1.0	2.2	33	35
NW	.5	2.0	1	0
NNW	.6	1.7	6	1
N	.8	1.7	0	1

TABLE E-186

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	2.4	0	0
NE	2.0	3.2	11	5
ENE	2.5	3.8	12	21
E	2.1	3.8	0	3
ESE	2.0	3.6	5	1
SE	1.4	2.8	0	0
SSE	.7	2.1	0	0
S	.6	1.8	0	0
SSW	.6	1.8	0	0
SW	.5	1.4	0	0
WSW	.7	1.6	0	0
W	1.4	2.6	0	0
WNW	1.7	2.8	12	9
NW	2.2	3.2	39	51
NNW	2.0	2.9	20	11
N	.6	1.7	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	2.2	12	9
NE	.5	1.7	3	0
ENE	.3	1.6	0	0
E	.1	1.8	0	0
ESE	.6	1.4	1	0
SE	.3	1.9	0	0
SSE	.4	1.8	0	0
S	.1	1.5	0	0
SSW	.1	1.6	0	0
SW	.5	1.2	2	0
WSW	.3	1.4	0	0
W	.6	1.7	1	3
WNW	.7	2.1	42	57
NW	.7	2.2	27	27
NNW	.7	1.7	14	5
N	.5	1.9	0	0

LOCATION 39

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	1.8	0	0
NE	.1	1.5	0	0
ENE	.4	1.6	0	0
E	.6	1.8	0	0
ESE	.5	1.7	0	0
SE	.5	1.7	0	0
SSE	.1	1.7	0	0
S	.6	1.8	0	0
SSW	.6	1.7	0	0
SW	1.3	2.4	45	36
WSW	1.3	2.4	32	22
W	.8	1.8	0	0
WNW	.7	1.8	0	0
NW	.8	2.1	0	1
NNW	1.3	2.3	23	35
N	1.1	1.9	0	6

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.4	3.0	0	0
NE	2.2	3.7	13	7
ENE	2.6	4.2	13	23
E	2.8	4.1	6	16
ESE	2.8	4.0	39	20
SE	1.9	2.9	0	0
SSE	1.2	2.6	0	0
S	.7	1.7	0	0
SSW	.8	1.9	0	0
SW	.4	1.4	0	0
WSW	1.1	2.0	0	0
W	1.7	2.6	0	2
WNW	1.9	3.2	15	18
NW	1.9	3.0	9	12
NNW	1.6	2.7	5	1
N	.7	1.8	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	2.3	5	3
NE	.7	1.8	3	0
ENE	.6	1.6	0	0
E	.7	1.4	0	0
ESE	.5	1.3	0	0
SE	.6	1.2	0	0
SSE	.3	1.3	0	0
S	.5	1.2	0	0
SSW	.3	1.2	0	0
SW	.6	1.4	1	0
WSW	.6	1.3	0	0
W	.7	1.6	0	0
WNW	.6	2.1	1	0
NW	1.1	2.3	71	78
NNW	.8	2.1	10	2
N	1.1	2.4	10	17

LOCATION 39

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.2	0	0
NE	.6	1.8	0	0
ENE	1.2	2.2	0	4
E	.8	2.2	0	0
ESE	.6	1.9	0	0
SE	.6	1.8	0	0
SSE	.9	1.9	0	0
S	1.1	2.3	0	0
SSW	1.3	2.3	0	1
SW	1.9	3.3	79	67
WSW	1.4	2.7	8	4
W	1.2	2.3	0	3
WNW	.9	2.1	0	0
NW	1.0	2.4	0	1
NNW	1.5	2.9	13	19
N	1.1	2.6	0	1

2000 FULL-BUILD PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.1	2.7	0	0
NE	1.9	3.4	8	3
ENE	2.4	4.1	10	21
E	2.8	4.3	8	18
ESE	2.8	4.0	48	25
SE	1.6	2.9	0	0
SSE	.7	2.1	0	0
S	.8	1.8	0	0
SSW	.7	1.8	0	0
SW	.3	1.4	0	0
WSW	.4	1.5	0	0
W	1.6	3.1	0	2
WNW	1.9	3.2	21	29
NW	1.6	2.8	2	1
NNW	1.5	3.0	3	1
N	1.1	2.6	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.1	3	2
NE	.7	1.9	5	1
ENE	.6	1.8	0	1
E	.7	1.5	0	0
ESE	.7	1.6	0	0
SE	.4	1.3	0	0
SSE	.1	1.4	0	0
S	.5	1.4	0	0
SSW	.4	1.4	0	0
SW	.1	1.3	0	0
WSW	.1	1.4	0	0
W	.7	2.0	0	1
WNW	.9	2.2	48	56
NW	.7	2.2	4	1
NNW	.8	2.1	15	4
N	1.2	2.3	24	34

LOCATION 39

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.6	1.6	0	0
NE	1.0	2.2	3	2
ENE	1.5	2.8	10	26
E	.3	1.9	0	0
ESE	1.4	2.3	12	10
SE	1.2	2.3	0	0
SSE	1.1	2.2	0	0
S	1.2	2.3	2	4
SSW	1.5	2.3	12	9
SW	1.4	2.5	53	36
WSW	.9	1.8	0	0
W	1.0	2.1	0	6
WNW	.7	1.7	0	0
NW	.8	2.2	0	0
NNW	1.0	2.2	5	3
N	1.0	2.5	0	2

TABLE E-187

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	2.4	0	0
NE	2.0	3.2	14	7
ENE	2.5	3.8	13	22
E	2.1	3.8	1	7
ESE	2.0	3.6	10	3
SE	1.4	2.8	0	0
SSE	.7	2.1	0	0
S	.6	1.8	0	0
SSW	.6	1.8	0	0
SW	.5	1.4	0	0
WSW	.7	1.6	0	0
W	1.4	2.6	0	0
WNW	1.7	2.8	12	9
NW	2.2	3.2	32	42
NNW	2.0	2.9	18	9
N	.6	1.7	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	2.2	5	4
NE	.5	1.7	4	1
ENE	.3	1.6	0	0
E	.1	1.8	0	0
ESE	.6	1.4	0	0
SE	.3	1.9	0	0
SSE	.4	1.8	0	0
S	.1	1.5	0	0
SSW	.1	1.6	0	0
SW	.5	1.2	0	0
WSW	.3	1.4	0	0
W	.6	1.7	0	1
WNW	.7	2.1	38	46
NW	.7	2.2	41	45
NNW	.7	1.7	12	3
N	.5	1.9	0	2

LOCATION 39

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	1.8	0	0
NE	.1	1.5	0	0
ENE	.4	1.6	0	0
E	.6	1.8	0	0
ESE	.5	1.7	0	0
SE	.5	1.7	0	0
SSE	.1	1.7	0	0
S	.6	1.8	0	0
SSW	.6	1.7	0	0
SW	1.3	2.4	44	35
WSW	1.3	2.4	33	23
W	.8	1.8	0	2
WNW	.7	1.8	0	0
NW	.8	2.1	1	4
NNW	1.3	2.3	21	31
N	1.1	1.9	0	3

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.4	3.0	0	1
NE	2.2	3.7	17	9
ENE	2.6	4.2	15	24
E	2.8	4.1	5	15
ESE	2.8	4.0	30	14
SE	1.9	2.9	0	0
SSE	1.2	2.6	0	0
S	.7	1.7	0	0
SSW	.8	1.9	0	0
SW	.4	1.4	0	0
WSW	1.1	2.0	0	0
W	1.7	2.6	0	2
WNW	1.9	3.2	17	21
NW	1.9	3.0	10	12
NNW	1.6	2.7	6	2
N	.7	1.8	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	2.3	4	3
NE	.7	1.8	4	1
ENE	.6	1.6	0	0
E	.7	1.4	0	0
ESE	.5	1.3	0	0
SE	.6	1.2	0	0
SSE	.3	1.3	0	0
S	.5	1.2	0	0
SSW	.3	1.2	0	0
SW	.6	1.4	0	0
WSW	.6	1.3	0	0
W	.7	1.6	0	0
WNW	.6	2.1	13	7
NW	1.1	2.3	58	71
NNW	.8	2.1	15	5
N	1.1	2.4	6	13

LOCATION 39

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.2	0	0
NE	.6	1.8	0	0
ENE	1.2	2.2	0	4
E	.8	2.2	0	0
ESE	.6	1.9	0	0
SE	.6	1.8	0	0
SSE	.9	1.9	0	0
S	1.1	2.3	0	0
SSW	1.3	2.3	0	0
SW	1.9	3.3	63	46
WSW	1.4	2.7	14	6
W	1.2	2.3	0	8
WNW	.9	2.1	1	0
NW	1.0	2.4	2	6
NNW	1.5	2.9	21	27
N	1.1	2.6	0	2

2000 FULL-BUILD PRE-MITIGATION

LOCATION 37

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.1	2.7	0	0
NE	1.9	3.4	13	6
ENE	2.4	4.1	12	22
E	2.8	4.3	8	17
ESE	2.8	4.0	32	14
SE	1.6	2.9	0	0
SSE	.7	2.1	0	0
S	.8	1.8	0	0
SSW	.7	1.8	0	0
SW	.3	1.4	0	0
WSW	.4	1.5	0	0
W	1.6	3.1	1	5
WNW	1.9	3.2	24	31
NW	1.6	2.8	3	3
NNW	1.5	3.0	7	2
N	1.1	2.6	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.1	2	2
NE	.7	1.9	8	2
ENE	.6	1.8	0	3
E	.7	1.5	0	0
ESE	.7	1.6	0	0
SE	.4	1.3	0	0
SSE	.1	1.4	0	0
S	.5	1.4	0	0
SSW	.4	1.4	0	0
SW	.1	1.3	1	0
WSW	.1	1.4	0	0
W	.7	2.0	0	2
WNW	.9	2.2	45	59
NW	.7	2.2	15	12
NNW	.8	2.1	21	9
N	1.2	2.3	5	11

LOCATION 39

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.6	1.8	0	0
NE	1.0	2.2	7	4
ENE	1.5	2.6	14	27
E	.3	1.9	0	0
ESE	1.4	2.3	7	4
SE	1.2	2.3	0	0
SSE	1.1	2.2	0	0
S	1.2	2.3	2	3
SSW	1.5	2.3	3	4
SW	1.4	2.5	47	26
WSW	.9	1.8	1	0
W	1.0	2.1	1	5
WNW	.7	1.7	1	0
NW	.8	2.2	3	3
NNW	1.0	2.2	12	9
N	1.0	2.5	1	8

TABLE E-188

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.7	0	0
NE	1.0	2.0	3	1
ENE	1.2	2.5	1	8
E	1.2	2.5	0	2
ESE	1.6	2.6	27	12
SE	1.2	2.7	0	0
SSE	1.0	2.4	0	0
S	.9	2.5	0	0
SSW	.4	2.0	0	0
SW	.8	2.4	0	0
WSW	.9	2.2	1	0
W	.8	2.1	0	0
WNW	.9	2.2	2	1
NW	1.0	2.3	1	1
NNW	1.6	3.0	61	68
N	1.3	2.7	2	8

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.5	0	0
NE	1.1	2.0	3	2
ENE	1.5	2.5	3	15
E	1.6	2.9	0	8
ESE	2.0	3.0	49	35
SE	1.6	2.6	1	1
SSE	1.5	2.6	1	1
S	1.5	2.8	4	7
SSW	1.0	2.4	0	0
SW	1.3	2.8	14	8
WSW	1.1	2.7	3	0
W	.8	2.4	0	0
WNW	.8	2.5	0	0
NW	.8	2.3	0	0
NNW	1.4	2.6	21	21
N	1.2	2.3	0	2

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.8	0	0
NE	1.4	2.4	1	0
ENE	1.7	2.8	0	4
E	1.7	3.1	0	0
ESE	2.1	3.7	7	2
SE	1.5	3.2	0	0
SSE	1.0	2.4	0	0
S	1.0	2.4	0	0
SSW	.8	2.3	0	0
SW	1.7	3.6	7	2
WSW	2.1	3.6	24	5
W	2.1	3.5	13	31
WNW	2.0	3.7	31	44
NW	1.9	3.3	11	12
NNW	1.6	3.1	5	1
N	1.1	2.6	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.8	0	0
NE	1.0	2.4	5	1
ENE	1.5	2.7	12	20
E	1.3	3.1	0	3
ESE	1.0	2.2	0	0
SE	1.0	2.2	0	0
SSE	.8	2.4	0	0
S	.8	2.7	0	0
SSW	.6	2.0	0	0
SW	.7	2.3	0	0
WSW	.8	2.2	1	0
W	.8	2.3	0	0
WNW	.9	2.3	3	0
NW	1.0	2.3	7	4
NNW	1.6	2.8	71	69
N	1.1	2.4	0	2

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.9	0	0
NE	1.1	2.6	3	1
ENE	1.7	2.9	10	24
E	1.4	2.7	0	3
ESE	1.9	3.0	47	33
SE	1.7	2.7	1	1
SSE	1.4	2.7	0	0
S	1.5	2.9	7	10
SSW	1.1	2.4	0	0
SW	1.2	2.8	7	4
WSW	1.0	2.7	1	0
W	.8	2.6	0	0
WNW	.8	2.0	0	0
NW	.9	2.1	0	0
NNW	1.4	2.6	22	22
N	1.0	2.1	0	0

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.4	2.5	0	0
NE	1.3	2.7	1	0
ENE	1.8	3.3	0	4
E	1.4	3.1	0	0
ESE	1.7	3.0	0	0
SE	1.5	3.0	0	0
SSE	1.4	2.9	0	0
S	1.0	2.4	0	0
SSW	1.3	2.7	0	0
SW	1.5	3.5	2	0
WSW	1.8	3.2	6	0
W	2.1	3.6	5	11
WNW	2.2	3.7	41	52
NW	2.2	3.6	27	26
NNW	2.1	3.3	19	7
N	1.6	3.1	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.5	0	1
NE	.8	1.9	1	0
ENE	.1	1.8	0	0
E	.5	1.4	0	0
ESE	1.4	2.4	8	5
SE	.9	2.3	0	0
SSE	.8	1.9	0	0
S	1.1	2.6	1	1
SSW	1.2	2.2	0	1
SW	1.4	2.5	41	23
WSW	1.2	2.3	11	3
W	1.1	2.7	1	9
WNW	.7	2.0	0	0
NW	.7	1.9	0	0
NNW	1.4	2.9	31	35
N	1.5	2.7	6	22

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.6	2.9	1	2
NE	1.4	2.5	5	3
ENE	1.6	2.8	1	9
E	1.0	2.2	0	0
ESE	1.8	3.1	7	5
SE	1.3	2.3	0	0
SSE	1.5	2.6	0	0
S	1.9	3.1	5	11
SSW	1.6	2.7	0	2
SW	1.9	3.6	47	31
WSW	1.9	3.3	31	16
W	1.4	2.7	0	7
WNW	1.1	2.6	0	0
NW	.6	2.2	0	0
NNW	1.0	2.7	0	0
N	1.8	2.8	2	14

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.8	3.5	0	1
NE	2.1	3.4	11	5
ENE	1.5	2.7	0	2
E	.6	1.8	0	0
ESE	.8	2.3	0	0
SE	.8	1.8	0	0
SSE	1.0	2.0	0	0
S	.9	2.2	0	0
SSW	1.1	2.0	0	0
SW	.6	2.6	0	0
WSW	1.2	2.5	0	0
W	1.5	3.1	0	0
WNW	1.9	3.3	19	19
NW	2.2	3.4	38	50
NNW	2.3	3.6	32	23
N	1.8	3.0	0	1

TABLE E-189

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.7	0	0
NE	1.0	2.0	3	1
ENE	1.2	2.5	1	8
E	1.2	2.5	0	2
ESE	1.6	2.6	14	6
SE	1.2	2.7	0	0
SSE	1.0	2.4	0	0
S	.9	2.5	0	1
SSW	.4	2.0	0	0
SW	.8	2.4	6	2
WSW	.9	2.2	3	0
W	.8	2.1	0	0
WNW	.9	2.2	8	6
NW	1.0	2.3	6	7
NNW	1.6	3.0	54	58
N	1.3	2.7	3	11

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.5	0	0
NE	1.1	2.0	3	1
ENE	1.5	2.5	2	13
E	1.6	2.9	0	6
ESE	2.0	3.0	22	16
SE	1.6	2.6	0	0
SSE	1.5	2.8	0	1
S	1.5	2.8	4	8
SSW	1.0	2.4	0	0
SW	1.3	2.8	26	16
WSW	1.1	2.7	15	5
W	.8	2.4	0	1
WNW	.8	2.5	5	6
NW	.8	2.3	1	2
NNW	1.4	2.6	21	22
N	1.2	2.3	0	2

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.8	0	0
NE	1.4	2.4	1	0
ENE	1.7	2.8	0	3
E	1.7	3.1	0	0
ESE	2.1	3.7	8	3
SE	1.5	3.2	0	0
SSE	1.0	2.4	0	0
S	1.0	2.4	0	0
SSW	.8	2.3	0	0
SW	1.7	3.6	15	5
WSW	2.1	3.6	18	3
W	2.1	3.5	7	21
WNW	2.0	3.7	34	53
NW	1.9	3.3	10	10
NNW	1.6	3.1	6	1
N	1.1	2.6	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.8	0	0
NE	1.0	2.4	6	2
ENE	1.5	2.7	9	18
E	1.3	3.1	1	6
ESE	1.0	2.2	1	0
SE	1.0	2.2	0	0
SSE	.8	2.4	0	0
S	.8	2.7	1	1
SSW	.6	2.0	0	0
SW	.7	2.3	2	0
WSW	.8	2.2	4	0
W	.8	2.3	0	1
WNW	.9	2.3	12	8
NW	1.0	2.3	12	12
NNW	1.6	2.8	51	48
N	1.1	2.4	1	4

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.9	0	0
NE	1.1	2.6	6	3
ENE	1.7	2.9	7	21
E	1.4	2.7	0	5
ESE	1.9	3.0	23	15
SE	1.7	2.7	0	1
SSE	1.4	2.7	0	0
S	1.5	2.9	9	14
SSW	1.1	2.4	0	1
SW	1.2	2.8	18	10
WSW	1.0	2.7	9	2
W	.8	2.6	0	2
WNW	.8	2.0	2	2
NW	.9	2.1	1	1
NNW	1.4	2.6	23	23
N	1.0	2.1	0	1

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.4	2.5	0	1
NE	1.3	2.7	2	4
ENE	1.8	3.3	0	18
E	1.4	3.1	0	2
ESE	1.7	3.0	0	2
SE	1.5	3.0	0	0
SSE	1.4	2.9	0	0
S	1.0	2.4	0	0
SSW	1.3	2.7	0	1
SW	1.5	3.5	9	25
WSW	1.8	3.2	7	15
W	2.1	3.6	4	119
WNW	2.2	3.7	42	330
NW	2.2	3.6	19	171
NNW	2.1	3.3	16	61
N	1.6	3.1	0	7

2000 FULL-BUILD PRE-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.5	0	1
NE	.8	1.9	1	0
ENE	.1	1.8	0	0
E	.5	1.4	0	0
ESE	1.4	2.4	5	2
SE	.9	2.3	0	0
SSE	.8	1.9	0	0
S	1.1	2.6	2	3
SSW	1.2	2.2	0	0
SW	1.4	2.5	32	16
WSW	1.2	2.3	9	2
W	1.1	2.7	3	16
WNW	.7	2.0	1	0
NW	.7	1.9	0	0
NNW	1.4	2.9	42	46
N	1.5	2.7	3	14

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.6	2.9	1	2
NE	1.4	2.5	5	3
ENE	1.6	2.8	1	10
E	1.0	2.2	0	0
ESE	1.8	3.1	7	6
SE	1.3	2.3	0	0
SSE	1.5	2.6	0	0
S	1.9	3.1	4	9
SSW	1.6	2.7	0	1
SW	1.8	3.6	48	32
WSW	1.9	3.3	25	15
W	1.4	2.7	1	12
WNW	1.1	2.6	3	4
NW	.6	2.2	0	0
NNW	1.0	2.7	5	3
N	1.8	2.8	1	7

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.6	3.5	1	1
NE	2.1	3.4	13	6
ENE	1.5	2.7	0	3
E	.6	1.8	0	0
ESE	.8	2.3	0	0
SE	.8	1.8	0	0
SSE	1.0	2.0	0	0
S	.9	2.2	0	0
SSW	1.1	2.0	0	0
SW	.6	2.6	0	0
WSW	1.2	2.5	0	0
W	1.5	3.1	0	1
WNW	1.9	3.3	22	25
NW	2.2	3.4	29	36
NNW	2.3	3.6	33	25
N	1.8	3.0	0	1

TABLE E-190

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 43

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.1	0	0
NE	.7	1.6	0	0
ENE	.7	1.9	0	0
E	.8	1.9	0	0
ESE	.5	1.4	0	0
SE	.4	1.8	0	0
SSE	.6	1.7	0	0
S	.6	1.6	0	0
SSW	.5	1.8	0	0
SW	.6	2.1	0	0
WSW	.9	2.4	1	0
W	1.1	2.6	0	2
WNW	1.3	3.1	24	23
NW	1.1	3.0	4	2
NNW	1.7	3.2	56	48
N	1.8	3.2	14	25

LOCATION 44

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	1.9	0	0
NE	.5	1.8	0	0
ENE	.5	1.6	0	0
E	.6	1.8	0	0
ESE	.1	1.5	0	0
SE	.4	1.8	0	0
SSE	.5	1.5	0	0
S	.5	1.6	0	0
SSW	.5	1.7	0	0
SW	.9	2.6	16	9
WSW	1.2	2.4	41	21
W	.8	2.2	0	5
WNW	.8	2.2	4	4
NW	1.0	2.5	11	26
NNW	1.1	2.5	28	33
N	.9	2.2	0	2

LOCATION 45

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	2.0	0	0
NE	.7	2.2	0	0
ENE	.8	2.0	0	0
E	.7	1.8	0	0
ESE	.4	1.8	0	0
SE	.6	2.2	0	0
SSE	.7	1.8	0	0
S	.8	1.8	0	0
SSW	.7	2.0	0	0
SW	1.6	3.2	58	31
WSW	1.1	2.9	3	0
W	1.0	2.4	0	0
WNW	1.3	3.1	28	57
NW	1.2	2.9	5	7
NNW	1.1	3.1	7	3
N	1.0	2.9	0	1

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 43

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.4	2.4	2	2
NE	.7	1.7	0	0
ENE	.7	1.5	0	0
E	.5	1.5	0	0
ESE	.8	1.7	0	0
SE	.1	1.5	0	0
SSE	.6	1.6	0	0
S	.6	1.5	0	0
SSW	.5	1.4	0	0
SW	.6	2.1	0	0
WSW	.9	2.2	1	0
W	.9	2.5	0	0
WNW	1.2	3.1	17	14
NW	1.2	3.3	10	8
NNW	1.6	3.1	54	48
N	1.8	3.0	15	28

LOCATION 44

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	1.9	0	0
NE	.5	1.5	0	0
ENE	.7	1.5	0	2
E	.6	1.6	0	0
ESE	.6	1.7	0	0
SE	.1	1.2	0	0
SSE	.6	1.7	0	0
S	.5	1.9	0	0
SSW	.3	1.5	0	0
SW	1.0	2.8	29	19
WSW	1.1	2.2	37	20
W	.8	2.1	0	3
WNW	.7	2.3	1	1
NW	.9	2.6	11	29
NNW	1.0	2.6	22	26
N	.8	2.1	0	1

LOCATION 45

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	1.9	0	0
NE	.6	1.5	0	0
ENE	.8	1.9	0	1
E	.7	2.0	0	0
ESE	.6	1.7	0	0
SE	.3	1.4	0	0
SSE	.8	2.3	0	0
S	.9	1.8	0	0
SSW	.7	2.0	0	0
SW	1.4	3.1	41	20
WSW	1.1	2.6	3	0
W	.9	2.4	0	0
WNW	1.3	3.3	27	51
NW	1.0	3.1	2	2
NNW	1.4	3.5	28	26
N	1.0	3.2	0	0

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 43

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.0	3.1	5	4
NE	1.6	2.6	8	2
ENE	1.0	2.1	0	0
E	.3	1.4	0	0
ESE	1.1	2.5	0	0
SE	.9	2.5	0	0
SSE	.7	2.5	0	0
S	.7	2.2	0	0
SSW	.4	1.7	0	0
SW	1.4	2.7	7	1
WSW	1.5	2.6	8	0
W	1.8	3.1	12	24
WNW	1.8	3.1	42	55
NW	1.4	2.7	5	2
NNW	1.4	2.9	9	2
N	1.9	3.2	4	10

LOCATION 44

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.2	3.6	21	20
NE	1.5	2.7	12	7
ENE	.6	1.6	0	0
E	.6	1.6	0	0
ESE	.7	2.0	0	0
SE	1.5	2.8	0	0
SSE	.9	2.2	0	0
S	1.2	2.5	0	0
SSW	.8	2.3	0	0
SW	1.3	2.6	13	6
WSW	1.3	2.8	8	1
W	1.1	2.7	0	1
WNW	1.1	2.6	4	2
NW	1.3	2.7	6	8
NNW	1.4	3.2	21	16
N	1.9	3.4	14	36

LOCATION 45

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.5	2.2	0	0
NE	.4	1.6	0	0
ENE	.6	1.8	0	1
E	.7	1.8	0	0
ESE	1.0	2.0	10	6
SE	.7	1.6	0	0
SSE	.7	1.6	0	0
S	.8	2.0	0	1
SSW	.5	1.7	0	0
SW	.5	2.3	0	0
WSW	1.0	2.6	35	14
W	.6	2.1	0	0
WNW	.6	2.3	1	0
NW	.6	2.5	0	0
NNW	1.2	2.7	52	69
N	.9	2.4	1	8

TABLE E-191
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
PRE-MITIGATION

LOCATION 43

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.1	0	0
NE	.7	1.6	0	0
ENE	.7	1.9	0	0
E	.8	1.9	0	0
ESE	.5	1.4	0	0
SE	.4	1.8	0	0
SSE	.6	1.7	0	0
S	.6	1.6	0	0
SSW	.5	1.8	0	0
SW	.6	2.1	0	0
WSW	.9	2.4	1	0
W	1.1	2.6	0	2
WNW	1.3	3.1	40	50
NW	1.1	3.0	14	11
NNW	1.7	3.2	39	27
N	1.8	3.2	5	10

LOCATION 44

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	1.9	0	0
NE	.5	1.8	1	0
ENE	.5	1.6	0	0
E	.6	1.8	0	0
ESE	.1	1.5	0	0
SE	.4	1.8	0	0
SSE	.5	1.5	0	0
S	.5	1.6	0	0
SSW	.5	1.7	0	0
SW	.9	2.6	24	12
WSW	1.2	2.4	26	9
W	.8	2.2	0	7
WNW	.8	2.2	7	9
NW	1.0	2.5	20	41
NNW	1.1	2.5	22	20
N	.9	2.2	0	2

LOCATION 45

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	2.0	0	0
NE	.7	2.2	1	0
ENE	.8	2.0	0	0
E	.7	1.8	0	0
ESE	.4	1.8	0	0
SE	.6	2.2	0	0
SSE	.7	1.8	0	0
S	.8	1.8	0	0
SSW	.7	2.0	0	0
SW	1.6	3.2	50	28
WSW	1.1	2.9	5	1
W	1.0	2.4	0	1
WNW	1.3	3.1	19	36
NW	1.2	2.9	10	18
NNW	1.1	3.1	17	13
N	1.0	2.9	0	3

1995 INTERIM-BUILD
PRE-MITIGATION

LOCATION 43

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.4	2.4	0	0
NE	.7	1.7	0	0
ENE	.7	1.5	0	0
E	.5	1.5	0	0
ESE	.8	1.7	0	0
SE	.1	1.5	0	0
SSE	.6	1.6	0	0
S	.6	1.5	0	0
SSW	.5	1.4	0	0
SW	.6	2.1	0	0
WSW	.9	2.2	1	0
W	.9	2.5	0	1
WNW	1.2	3.1	38	48
NW	1.2	3.3	22	20
NNW	1.6	3.1	35	23
N	1.8	3.0	3	8

LOCATION 44

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	1.9	0	0
NE	.5	1.5	0	0
ENE	.7	1.5	0	0
E	.6	1.6	0	0
ESE	.6	1.7	0	0
SE	.1	1.2	0	0
SSE	.6	1.7	0	0
S	.5	1.9	0	0
SSW	.3	1.5	0	0
SW	1.0	2.8	32	17
WSW	1.1	2.2	17	5
W	.8	2.1	0	5
WNW	.7	2.3	10	15
NW	.9	2.6	17	34
NNW	1.0	2.6	23	22
N	.8	2.1	0	1

LOCATION 45

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	1.9	0	0
NE	.6	1.5	0	0
ENE	.8	1.9	0	0
E	.7	2.0	0	0
ESE	.6	1.7	0	0
SE	.3	1.4	0	0
SSE	.8	2.3	0	0
S	.9	1.8	0	0
SSW	.7	2.0	0	0
SW	1.4	3.1	30	13
WSW	1.1	2.6	2	0
W	.9	2.4	0	0
WNW	1.3	3.3	27	43
NW	1.0	3.1	8	11
NNW	1.4	3.5	33	29
N	1.0	3.2	0	4

2000 FULL-BUILD
PRE-MITIGATION

LOCATION 43

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.0	3.1	3	3
NE	1.6	2.6	7	2
ENE	1.0	2.1	0	1
E	.3	1.4	0	0
ESE	1.1	2.5	0	0
SE	.9	2.5	0	0
SSE	.7	2.5	0	0
S	.7	2.2	0	0
SSW	.4	1.7	0	0
SW	1.4	2.7	10	2
WSW	1.5	2.6	7	0
W	1.8	3.1	10	21
WNW	1.8	3.1	38	51
NW	1.4	2.7	9	7
NNW	1.4	2.9	12	4
N	1.9	3.2	4	9

LOCATION 44

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.2	3.6	12	12
NE	1.5	2.7	10	5
ENE	.6	1.6	0	0
E	.6	1.6	0	0
ESE	.7	2.0	0	0
SE	1.5	2.8	0	0
SSE	.9	2.2	0	0
S	1.2	2.5	0	0
SSW	.8	2.3	0	0
SW	1.3	2.6	14	6
WSW	1.3	2.8	6	1
W	1.1	2.7	0	2
WNW	1.1	2.6	7	7
NW	1.3	2.7	8	11
NNW	1.4	3.2	30	28
N	1.9	3.4	10	27

LOCATION 45

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.5	2.2	0	0
NE	.4	1.6	0	0
ENE	.6	1.8	0	2
E	.7	1.8	0	0
ESE	1.0	2.0	1	1
SE	.7	1.6	0	0
SSE	.7	1.6	0	0
S	.8	2.0	0	0
SSW	.5	1.7	0	0
SW	.5	2.3	7	3
WSW	1.0	2.6	26	8
W	.6	2.1	0	2
WNW	.6	2.3	12	16
NW	.6	2.5	7	11
NNW	1.2	2.7	45	53
N	.9	2.4	0	3

TABLE E-192
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 46

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.6	1.8	0	0
NE	.1	1.6	0	0
ENE	.9	2.0	0	1
E	.9	1.9	0	0
ESE	.7	1.8	0	0
SE	.8	2.1	0	0
SSE	.8	2.0	0	0
S	.8	2.1	0	0
SSW	.7	2.1	0	0
SW	1.7	3.2	60	59
WSW	1.7	3.4	40	41
W	.4	2.0	0	0
WNW	.9	2.6	0	0
NW	.6	2.0	0	0
NNW	.8	2.0	0	0
N	.9	1.9	0	0

LOCATION 46

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.2	2.1	0	1
NE	.7	1.6	0	0
ENE	.6	2.0	0	0
E	.9	1.8	0	0
ESE	.9	2.1	0	0
SE	.8	2.2	0	0
SSE	1.1	2.4	0	0
S	1.0	2.2	0	0
SSW	.7	2.0	0	0
SW	1.4	2.9	34	32
WSW	1.7	3.3	67	66
W	.6	2.1	0	0
WNW	.8	2.6	0	0
NW	.6	2.1	0	0
NNW	.7	1.9	0	0
N	.9	2.0	0	1

LOCATION 46

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	2.4	1	1
NE	.8	2.0	2	0
ENE	.1	1.7	0	0
E	.6	1.7	0	0
ESE	.9	2.1	0	0
SE	.8	1.8	0	0
SSE	.6	1.8	0	0
S	1.0	3.2	0	1
SSW	.8	2.5	0	0
SW	.9	2.4	7	2
WSW	.9	2.3	3	0
W	.6	2.0	0	0
WNW	.5	1.7	0	0
NW	.6	2.0	0	0
NNW	1.6	2.9	80	90
N	1.1	2.9	1	5

LOCATION 47

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.5	2.5	1	2
NE	1.0	2.0	0	0
ENE	1.2	2.1	0	3
E	1.0	2.4	0	0
ESE	1.0	2.2	0	0
SE	1.0	2.2	0	0
SSE	1.2	2.5	0	0
S	1.2	2.5	0	0
SSW	1.1	2.4	0	0
SW	1.6	3.0	58	46
WSW	1.7	3.0	24	15
W	.8	2.5	0	0
WNW	.8	1.8	0	0
NW	1.0	2.2	0	0
NNW	1.6	2.7	17	23
N	1.6	2.6	1	10

LOCATION 47

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.4	2.2	1	3
NE	1.0	2.3	1	1
ENE	.7	1.6	0	0
E	.9	1.8	0	0
ESE	.8	1.9	0	0
SE	.8	2.2	0	0
SSE	1.5	2.8	1	1
S	1.6	3.0	6	14
SSW	1.4	2.8	1	3
SW	1.7	3.0	70	53
WSW	1.2	3.0	6	2
W	.4	1.8	0	0
WNW	.5	1.6	0	0
NW	1.0	1.9	0	1
NNW	1.3	2.5	13	16
N	1.3	2.2	0	7

LOCATION 47

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.7	2.7	10	8
NE	1.1	2.1	4	1
ENE	.1	1.9	0	0
E	.7	1.7	0	0
ESE	.6	1.5	0	0
SE	.5	1.8	0	0
SSE	.8	2.0	0	0
S	1.0	2.0	0	0
SSW	1.0	3.7	0	0
SW	1.1	2.4	7	2
WSW	1.0	2.2	2	0
W	.8	2.2	0	0
WNW	.6	1.7	0	0
NW	.9	1.9	0	0
NNW	1.7	3.2	67	69
N	1.7	2.6	10	21

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.5	1.8	0	0
NE	.5	1.6	0	0
ENE	.5	1.5	0	0
E	.6	1.8	0	0
ESE	1.0	2.0	2	3
SE	.8	2.0	0	0
SSE	.9	2.2	0	0
S	1.1	2.5	3	12
SSW	1.2	2.6	9	11
SW	1.2	2.2	51	46
WSW	1.1	2.3	32	27
W	.4	1.7	0	0
WNW	.4	1.6	0	0
NW	.1	1.7	0	0
NNW	.7	1.8	1	1
N	.5	1.9	0	0

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.3	2.5	4	6
NE	1.1	2.2	8	6
ENE	.6	1.8	0	0
E	.8	2.3	0	0
ESE	1.4	2.6	18	16
SE	1.1	2.2	0	0
SSE	1.1	2.4	0	1
S	1.4	2.9	13	25
SSW	1.5	2.8	24	14
SW	1.2	2.7	27	21
WSW	.8	2.3	1	0
W	.1	1.6	0	0
WNW	.4	2.0	0	0
NW	.6	1.7	0	0
NNW	.9	1.9	4	3
N	1.1	2.2	1	8

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.4	2.6	5	5
NE	.5	1.9	0	0
ENE	.5	1.6	0	0
E	.8	2.1	0	0
ESE	1.0	2.4	0	0
SE	.9	2.2	0	0
SSE	1.2	2.6	1	0
S	1.1	2.9	1	2
SSW	1.3	2.7	3	3
SW	1.3	2.6	37	19
WSW	1.0	2.5	4	0
W	.6	1.8	0	0
WNW	.5	2.0	0	0
NW	.7	1.8	0	0
NNW	1.4	2.6	41	47
N	1.5	2.6	7	24

TABLE E-193

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 46

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.6	1.8	0	0
NE	.1	1.6	0	0
ENE	.9	2.0	0	1
E	.9	1.9	0	0
ESE	.7	1.8	0	0
SE	.8	2.1	0	0
SSE	.8	2.0	0	0
S	.8	2.1	0	0
SSW	.7	2.1	0	0
SW	1.7	3.2	51	47
WSW	1.7	3.4	46	42
W	.4	2.0	0	0
WNW	.9	2.6	3	10
NW	.6	2.0	0	0
NNW	.8	2.0	1	0
N	.9	1.9	0	0

LOCATION 46

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.2	2.1	0	0
NE	.7	1.6	0	0
ENE	.6	2.0	0	1
E	.9	1.8	0	0
ESE	.9	2.1	0	0
SE	.8	2.2	0	0
SSE	1.1	2.4	0	0
S	1.0	2.2	0	0
SSW	.7	2.0	0	0
SW	1.4	2.9	37	31
WSW	1.7	3.3	56	48
W	.6	2.1	0	0
WNW	.8	2.6	6	18
NW	.6	2.1	0	0
NNW	.7	1.9	1	0
N	.9	2.0	0	1

LOCATION 46

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	2.4	1	2
NE	.8	2.0	4	1
ENE	.1	1.7	0	0
E	.6	1.7	0	0
ESE	.9	2.1	0	0
SE	.8	1.8	0	0
SSE	.6	1.8	0	0
S	1.0	3.2	9	8
SSW	.8	2.5	0	0
SW	.9	2.4	12	4
WSW	.9	2.3	5	0
W	.6	2.0	0	0
WNW	.5	1.7	0	0
NW	.9	2.3	8	9
NNW	1.6	2.9	58	63
N	1.1	2.9	3	12

LOCATION 47

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.5	2.5	0	1
NE	1.0	2.0	1	0
ENE	1.2	2.1	0	3
E	1.0	2.4	0	0
ESE	1.0	2.2	0	0
SE	1.0	2.2	0	0
SSE	1.2	2.5	0	1
S	1.2	2.5	0	1
SSW	1.1	2.4	0	0
SW	1.6	3.0	51	42
WSW	1.7	3.0	34	26
W	.8	2.5	0	0
WNW	.8	1.8	0	0
NW	1.0	2.2	0	1
NNW	1.6	2.7	14	20
N	1.6	2.6	0	6

LOCATION 47

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.4	2.2	0	1
NE	1.0	2.3	1	1
ENE	.7	1.6	0	0
E	.9	1.8	0	0
ESE	.8	1.9	0	0
SE	.8	2.2	0	0
SSE	1.5	2.8	0	1
S	1.6	3.0	3	11
SSW	1.4	2.8	1	3
SW	1.7	3.0	54	46
WSW	1.2	3.0	32	25
W	.4	1.8	0	0
WNW	.5	1.6	0	0
NW	1.0	1.9	0	1
NNW	1.3	2.5	8	15
N	1.3	2.2	0	2

LOCATION 47

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.7	2.7	5	5
NE	1.1	2.1	5	2
ENE	.1	1.9	0	0
E	.7	1.7	0	0
ESE	.6	1.5	0	0
SE	.5	1.8	0	0
SSE	.8	2.0	0	0
S	1.0	2.0	0	0
SSW	1.0	3.7	0	1
SW	1.1	2.4	17	6
WSW	1.0	2.2	3	0
W	.8	2.2	0	1
WNW	.6	1.7	0	0
NW	.9	1.9	0	0
NNW	1.7	3.2	64	72
N	1.7	2.6	4	14

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.5	1.8	0	0
NE	.5	1.6	1	0
ENE	.5	1.5	0	0
E	.6	1.8	0	0
ESE	1.0	2.0	1	2
SE	.8	2.0	0	0
SSE	.9	2.2	0	0
S	1.1	2.5	8	20
SSW	1.2	2.6	6	8
SW	1.2	2.2	46	39
WSW	1.1	2.3	34	26
W	.4	1.7	0	0
WNW	.4	1.6	0	0
NW	.1	1.7	0	0
NNW	.7	1.8	3	2
N	.5	1.9	0	0

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.3	2.5	2	4
NE	1.1	2.2	7	5
ENE	.6	1.8	0	2
E	.8	2.3	0	1
ESE	1.4	2.6	12	11
SE	1.1	2.2	0	0
SSE	1.1	2.4	0	1
S	1.4	2.9	13	24
SSW	1.5	2.8	11	9
SW	1.2	2.7	40	29
WSW	.8	2.3	7	2
W	.1	1.6	0	0
WNW	.4	2.0	0	0
NW	.6	1.7	0	0
NNW	.9	1.9	6	4
N	1.1	2.2	1	8

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.4	2.6	2	3
NE	.5	1.9	1	0
ENE	.5	1.6	0	0
E	.8	2.1	0	0
ESE	1.0	2.4	1	1
SE	.9	2.2	0	0
SSE	1.2	2.6	0	0
S	1.1	2.9	4	7
SSW	1.3	2.7	2	4
SW	1.3	2.6	36	22
WSW	1.0	2.5	13	4
W	.6	1.8	0	0
WNW	.5	2.0	1	0
NW	.7	1.8	0	0
NNW	1.4	2.8	36	45
N	1.5	2.6	2	13

TABLE E-194

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.2	0	0
NE	.5	2.0	0	0
ENE	.8	2.0	0	1
E	.7	2.1	0	0
ESE	1.5	2.8	8	9
SE	1.0	2.4	0	0
SSE	1.1	2.8	0	0
S	1.3	3.0	1	5
SSW	1.5	2.9	2	5
SW	1.5	2.8	37	34
WSW	1.7	3.1	52	46
W	.7	2.0	0	0
WNW	.5	1.8	0	0
NW	.8	2.3	0	0
NNW	.8	2.5	0	0
N	.9	2.3	0	0

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.0	0	0
NE	.7	2.1	1	1
ENE	1.2	2.8	8	24
E	.7	2.2	0	0
ESE	1.0	2.6	2	2
SE	.7	2.2	0	0
SSE	.9	2.4	0	0
S	1.0	2.3	2	6
SSW	1.2	2.3	7	8
SW	1.1	2.6	61	45
WSW	.9	2.6	7	3
W	.7	1.6	0	0
WNW	.7	2.3	3	4
NW	.7	2.2	0	0
NNW	.8	2.2	5	4
N	.7	1.6	0	1

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.3	0	0
NE	1.0	2.5	0	0
ENE	1.0	2.7	0	1
E	1.6	3.1	0	3
ESE	2.0	3.4	14	16
SE	1.3	2.5	0	0
SSE	1.2	2.5	0	0
S	1.2	2.5	0	0
SSW	1.2	2.6	0	0
SW	1.8	2.9	30	27
WSW	2.1	3.6	50	43
W	.9	2.0	0	0
WNW	.8	2.0	0	0
NW	1.1	2.4	0	0
NNW	1.4	2.7	6	7
N	1.4	2.6	0	3

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.3	0	0
NE	.8	1.9	1	0
ENE	.6	2.0	0	0
E	.6	2.0	0	0
ESE	1.8	3.1	50	46
SE	1.2	2.3	0	0
SSE	1.2	2.7	0	0
S	1.4	3.2	9	19
SSW	1.4	2.8	4	6
SW	1.1	2.5	12	9
WSW	1.2	2.8	16	8
W	.6	1.8	0	0
WNW	.6	2.2	0	0
NW	.9	2.2	1	3
NNW	1.0	2.8	7	6
N	1.0	2.1	0	2

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.3	0	0
NE	.9	2.3	4	2
ENE	.9	2.4	0	7
E	.7	1.8	0	0
ESE	1.2	2.6	5	4
SE	.9	2.1	0	0
SSE	.9	2.3	0	0
S	1.1	2.6	3	6
SSW	1.2	2.1	2	4
SW	1.3	2.3	57	40
WSW	1.0	2.0	5	1
W	.7	1.8	0	0
WNW	.8	2.2	4	5
NW	1.0	2.1	6	17
NNW	1.0	2.4	11	10
N	.8	2.2	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.5	0	0
NE	.8	2.2	0	0
ENE	1.0	2.6	0	0
E	1.6	3.0	0	1
ESE	2.4	3.8	26	28
SE	1.3	2.3	0	0
SSE	1.2	2.2	0	0
S	1.3	2.6	0	0
SSW	1.2	2.6	0	0
SW	1.8	2.9	18	17
WSW	2.2	3.5	52	45
W	.9	2.2	0	0
WNW	1.2	2.6	0	0
NW	1.4	2.5	1	2
NNW	1.5	2.6	4	4
N	1.4	2.7	0	1

2000 FULL-BUILD PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.2	0	0
NE	.5	1.8	0	0
ENE	.5	1.6	0	0
E	.7	1.7	0	0
ESE	1.4	2.9	7	4
SE	1.2	2.3	0	0
SSE	1.4	2.7	1	1
S	1.4	3.1	4	7
SSW	1.5	3.0	9	6
SW	1.2	2.7	19	10
WSW	1.2	2.9	12	3
W	.7	2.0	0	0
WNW	.8	2.3	0	0
NW	1.2	2.6	10	20
NNW	1.5	2.8	34	40
N	1.3	2.7	1	8

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.1	0	0
NE	.7	1.7	1	0
ENE	.7	2.0	0	1
E	.8	1.8	0	0
ESE	1.0	2.6	1	1
SE	1.1	2.4	0	0
SSE	1.0	2.3	0	0
S	1.3	2.6	14	20
SSW	1.2	2.1	2	3
SW	1.1	2.5	37	21
WSW	1.0	2.0	7	1
W	.9	1.9	0	6
WNW	1.0	2.3	13	23
NW	.7	2.2	0	0
NNW	1.1	2.4	21	21
N	.9	2.1	0	1

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.2	0	0
NE	1.0	2.2	1	0
ENE	.8	1.9	0	0
E	1.3	2.8	0	1
ESE	2.1	3.5	27	28
SE	1.4	2.5	0	0
SSE	1.3	2.5	0	0
S	1.3	2.7	0	1
SSW	1.0	2.3	0	0
SW	1.5	2.8	18	16
WSW	1.9	3.4	46	37
W	1.2	2.4	0	2
WNW	1.2	2.3	3	7
NW	1.1	2.2	0	1
NNW	1.3	2.6	5	4
N	1.3	2.5	0	2

TABLE E-195

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.2	0	0
NE	.5	2.0	0	0
ENE	.8	2.0	0	2
E	.7	2.1	0	0
ESE	1.5	2.8	7	7
SE	1.0	2.4	0	0
SSE	1.1	2.8	0	0
S	1.3	3.0	6	15
SSW	1.5	2.9	1	4
SW	1.5	2.8	36	30
WSW	1.7	3.1	44	35
W	.7	2.0	0	0
WNW	.5	1.8	0	0
NW	.8	2.3	0	1
NNW	.8	2.5	5	4
N	.9	2.3	0	1

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.0	0	0
NE	.7	2.1	4	2
ENE	1.2	2.8	7	22
E	.7	2.2	0	0
ESE	1.0	2.6	6	5
SE	.7	2.2	0	0
SSE	.9	2.4	0	0
S	1.0	2.3	2	5
SSW	1.2	2.3	0	1
SW	1.1	2.6	48	32
WSW	.9	2.6	15	6
W	.7	1.6	0	0
WNW	.7	2.3	7	12
NW	.7	2.2	2	4
NNW	.8	2.2	10	8
N	.7	1.8	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.3	0	0
NE	1.0	2.5	2	1
ENE	1.0	2.7	0	5
E	1.6	3.1	0	5
ESE	2.0	3.4	13	13
SE	1.3	2.5	0	0
SSE	1.2	2.5	0	0
S	1.2	2.5	0	1
SSW	1.2	2.6	0	0
SW	1.8	2.9	24	20
WSW	2.1	3.6	53	43
W	.9	2.0	0	0
WNW	.8	2.0	0	0
NW	1.1	2.4	0	1
NNW	1.4	2.7	8	8
N	1.4	2.6	0	3

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.3	0	0
NE	.8	1.9	1	1
ENE	.6	2.0	0	2
E	.6	2.0	0	0
ESE	1.8	3.1	26	23
SE	1.2	2.3	0	0
SSE	1.2	2.7	0	0
S	1.4	3.2	11	21
SSW	1.4	2.8	2	5
SW	1.1	2.5	18	13
WSW	1.2	2.8	24	13
W	.6	1.8	0	0
WNW	.6	2.2	1	1
NW	.9	2.2	1	3
NNW	1.0	2.8	15	17
N	1.0	2.1	0	1

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.3	0	1
NE	.9	2.3	8	5
ENE	.9	2.4	1	10
E	.7	1.8	0	0
ESE	1.2	2.6	9	6
SE	.9	2.1	0	0
SSE	.9	2.3	0	0
S	1.1	2.6	6	10
SSW	1.2	2.1	0	2
SW	1.3	2.3	38	23
WSW	1.0	2.0	5	1
W	.7	1.8	0	0
WNW	.8	2.2	8	14
NW	1.0	2.1	4	8
NNW	1.0	2.4	18	17
N	.8	2.2	0	1

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.5	0	0
NE	.8	2.2	0	0
ENE	1.0	2.6	0	3
E	1.6	3.0	0	3
ESE	2.4	3.8	24	24
SE	1.3	2.3	0	0
SSE	1.2	2.2	0	0
S	1.3	2.6	0	1
SSW	1.2	2.6	0	0
SW	1.8	2.9	17	15
WSW	2.2	3.5	51	41
W	.9	2.2	0	0
WNW	1.2	2.6	2	3
NW	1.4	2.5	1	3
NNW	1.5	2.6	6	5
N	1.4	2.7	0	2

2000 FULL-BUILD PRE-MITIGATION

LOCATION 49

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.2	0	0
NE	.5	1.8	0	0
ENE	.5	1.6	0	0
E	.7	1.7	0	0
ESE	1.4	2.9	6	4
SE	1.2	2.3	0	0
SSE	1.4	2.7	0	0
S	1.4	3.1	5	9
SSW	1.5	3.0	5	5
SW	1.2	2.7	22	12
WSW	1.2	2.9	20	7
W	.7	2.0	0	0
WNW	.8	2.3	4	4
NW	1.2	2.6	14	30
NNW	1.5	2.8	22	23
N	1.3	2.7	0	4

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.1	0	0
NE	.7	1.7	1	0
ENE	.7	2.0	0	4
E	.8	1.8	0	0
ESE	1.0	2.6	5	3
SE	1.1	2.4	0	0
SSE	1.0	2.3	0	0
S	1.3	2.6	10	14
SSW	1.2	2.1	0	1
SW	1.1	2.5	29	15
WSW	1.0	2.0	10	2
W	.9	1.9	0	3
WNW	1.0	2.3	19	35
NW	.7	2.2	2	3
NNW	1.1	2.4	20	17
N	.9	2.1	0	2

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.C	2.2	0	0
NE	1.0	2.2	1	1
ENE	.8	1.9	0	1
E	1.3	2.8	0	2
ESE	2.1	3.5	19	19
SE	1.4	2.5	0	0
SSE	1.3	2.5	0	0
S	1.3	2.7	0	2
SSW	1.0	2.3	0	0
SW	1.5	2.8	20	17
WSW	1.9	3.4	47	36
W	1.2	2.4	0	2
WNW	1.2	2.3	4	9
NW	1.1	2.2	0	2
NNW	1.3	2.6	7	7
N	1.3	2.5	0	3

TABLE E-196

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.4	0	0
NE	.5	2.1	0	0
ENE	.7	2.1	0	0
E	.8	2.0	0	0
ESE	.5	1.4	0	0
SE	.4	1.5	0	0
SSE	.6	1.7	0	0
S	.5	1.7	0	0
SSW	.4	1.9	0	0
SW	2.2	3.9	79	64
WSW	1.3	3.1	1	0
W	.7	2.4	0	0
WNW	1.2	3.0	1	2
NW	1.3	2.9	1	4
NNW	1.8	3.2	18	27
N	1.5	2.9	0	3

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	2.6	0	0
NE	.1	1.9	0	0
ENE	.6	2.2	0	0
E	.9	2.3	0	0
ESE	1.2	2.4	0	0
SE	1.1	2.2	0	0
SSE	1.5	3.0	0	0
S	1.5	3.1	1	4
SSW	1.6	3.0	1	3
SW	1.4	3.2	12	11
WSW	2.1	3.5	86	80
W	.7	2.1	0	0
WNW	.6	2.9	0	0
NW	1.1	3.5	0	1
NNW	.1	2.4	0	0
N	.1	2.0	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	1.9	0	0
NE	.6	1.7	0	0
ENE	.8	2.1	0	1
E	.7	2.0	0	0
ESE	.9	1.9	0	0
SE	1.0	2.1	0	0
SSE	1.2	2.6	0	0
S	1.2	2.7	1	1
SSW	1.6	3.1	12	8
SW	1.6	3.3	69	41
WSW	.9	2.4	1	0
W	1.3	2.8	6	35
WNW	.8	2.2	0	0
NW	1.1	2.4	5	10
NNW	1.0	2.3	3	1
N	1.1	2.2	0	2

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.4	0	0
NE	.5	1.7	0	0
ENE	.8	2.0	0	0
E	.6	2.0	0	0
ESE	.5	1.4	0	0
SE	.4	1.6	0	0
SSE	.6	1.7	0	0
S	.6	1.7	0	0
SSW	.4	1.8	0	0
SW	2.0	3.4	64	44
WSW	1.3	3.0	2	0
W	.7	2.5	0	0
WNW	1.4	3.2	6	11
NW	1.4	3.0	3	7
NNW	1.8	3.4	25	33
N	1.6	2.9	0	4

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	2.3	0	0
NE	.5	1.7	0	0
ENE	.6	1.7	0	0
E	.9	2.0	0	0
ESE	1.2	2.2	0	0
SE	1.1	2.1	0	0
SSE	1.4	2.5	0	0
S	1.7	3.6	9	18
SSW	1.6	2.8	2	5
SW	1.0	3.0	1	1
WSW	1.9	3.2	81	63
W	.5	2.1	0	0
WNW	.8	3.0	0	0
NW	1.2	3.4	5	13
NNW	.6	2.5	0	0
N	.2	2.0	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.1	0	1
NE	.5	1.7	0	0
ENE	.7	2.1	0	0
E	.7	1.8	0	0
ESE	.9	2.0	0	0
SE	.8	2.1	0	0
SSE	1.1	2.7	0	0
S	1.2	2.9	1	2
SSW	1.6	3.3	14	9
SW	1.5	3.1	71	46
WSW	.9	2.5	0	0
W	1.3	2.6	5	34
WNW	.9	2.8	1	1
NW	1.0	2.4	1	2
NNW	1.0	2.3	4	2
N	1.1	2.1	0	3

2000 FULL-BUILD PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.0	3.7	11	15
NE	1.3	3.0	6	4
ENE	.6	1.7	0	0
E	.8	2.3	0	0
ESE	.6	2.0	0	0
SE	.8	1.9	0	0
SSE	.5	1.4	0	0
S	.7	2.0	0	0
SSW	.5	1.5	0	0
SW	1.7	3.2	58	41
WSW	1.3	2.9	8	3
W	.9	2.3	0	0
WNW	1.2	2.9	5	10
NW	1.1	2.6	1	3
NNW	1.3	3.3	8	6
N	1.6	3.4	3	17

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.3	1.6	0	0
NE	.5	1.4	0	0
ENE	.5	1.6	0	0
E	.8	2.0	0	0
ESE	1.0	2.0	0	0
SE	.6	1.6	0	0
SSE	1.1	2.3	0	0
S	1.2	3.0	0	1
SSW	1.3	2.8	0	1
SW	1.1	3.0	2	1
WSW	1.8	3.4	73	58
W	.5	2.1	0	0
WNW	.6	3.0	0	0
NW	1.2	3.5	3	10
NNW	1.5	3.6	22	29
N	.6	2.5	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.6	0	0
NE	.5	1.6	0	0
ENE	.8	1.9	0	1
E	.5	2.3	0	0
ESE	.7	1.8	0	0
SE	.8	2.0	0	0
SSE	1.0	2.5	0	0
S	1.3	2.8	1	2
SSW	1.5	3.2	6	5
SW	1.5	3.1	65	38
WSW	.9	2.5	0	0
W	1.4	2.8	15	51
WNW	.8	2.2	0	0
NW	1.1	2.4	7	14
NNW	1.0	2.2	2	3
N	.7	1.8	0	0

TABLE E-197

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.4	0	0
NE	.5	2.1	0	0
ENE	.7	2.1	0	0
E	.8	2.0	0	0
ESE	.5	1.4	0	0
SE	.4	1.5	0	0
SSE	.6	1.7	0	0
S	.5	1.7	0	0
SSW	.4	1.9	0	0
SW	2.2	3.9	70	51
WSW	1.3	3.1	4	1
W	.7	2.4	0	0
WNW	1.2	3.0	6	13
NW	1.3	2.9	4	11
NNW	1.8	3.2	16	20
N	1.5	2.9	0	3

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	2.6	0	0
NE	.1	1.9	0	0
ENE	.6	2.2	0	0
E	.9	2.3	0	0
ESE	1.2	2.4	0	0
SE	1.1	2.2	0	0
SSE	1.5	3.0	0	0
S	1.5	3.1	2	6
SSW	1.6	3.0	1	2
SW	1.4	3.2	23	16
WSW	2.1	3.5	59	40
W	.7	2.1	0	0
WNW	.6	2.9	1	1
NW	1.1	3.5	13	35
NNW	.1	2.4	0	0
N	.1	2.0	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	1.9	0	0
NE	.6	1.7	0	0
ENE	.8	2.1	0	1
E	.7	2.0	0	0
ESE	.9	1.9	0	0
SE	1.0	2.1	0	0
SSE	1.2	2.6	0	0
S	1.2	2.7	2	3
SSW	1.6	3.1	8	7
SW	1.6	3.3	70	42
WSW	.9	2.4	2	0
W	1.3	2.8	4	28
WNW	.8	2.2	2	1
NW	1.1	2.4	7	14
NNW	1.0	2.3	3	1
N	1.1	2.2	0	1

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.4	0	0
NE	.5	1.7	0	0
ENE	.8	2.0	0	0
E	.6	2.0	0	0
ESE	.5	1.4	0	0
SE	.4	1.6	0	0
SSE	.6	1.7	0	0
S	.6	1.7	0	0
SSW	.4	1.8	0	0
SW	2.0	3.4	49	29
WSW	1.3	3.0	5	1
W	.7	2.5	0	0
WNW	1.4	3.2	14	27
NW	1.4	3.0	5	11
NNW	1.8	3.4	26	29
N	1.6	2.9	0	3

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	2.3	0	0
NE	.5	1.7	0	0
ENE	.6	1.7	0	0
E	.9	2.0	0	0
ESE	1.2	2.2	0	0
SE	1.1	2.1	0	0
SSE	1.4	2.5	0	0
S	1.7	3.6	8	11
SSW	1.6	2.8	1	2
SW	1.0	3.0	13	7
WSW	1.9	3.2	48	24
W	.5	2.1	0	0
WNW	.8	3.0	6	7
NW	1.2	3.4	23	49
NNW	.6	2.5	1	0
N	.2	2.0	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.1	0	0
NE	.5	1.7	0	0
ENE	.7	2.1	0	1
E	.7	1.8	0	0
ESE	.9	2.0	0	0
SE	.8	2.1	0	0
SSE	1.1	2.7	0	0
S	1.2	2.9	3	5
SSW	1.6	3.3	14	8
SW	1.5	3.1	62	37
WSW	.7	2.5	2	0
W	1.3	2.6	5	31
WNW	.9	2.8	6	8
NW	1.0	2.4	3	5
NNW	1.0	2.3	4	2
N	1.1	2.1	0	1

2000 FULL-BUILD PRE-MITIGATION

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.0	3.7	7	9
NE	1.3	3.0	8	5
ENE	.6	1.7	0	0
E	.8	2.3	0	0
ESE	.6	2.0	0	0
SE	.8	1.9	0	0
SSE	.5	1.4	0	0
S	.7	2.0	0	0
SSW	.5	1.5	0	0
SW	1.7	3.2	41	25
WSW	1.3	2.9	11	3
W	.9	2.3	0	0
WNW	1.2	2.9	11	21
NW	1.1	2.6	3	7
NNW	1.3	3.3	16	14
N	1.6	3.4	3	14

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.3	1.6	0	0
NE	.5	1.4	0	0
ENE	.5	1.6	0	0
E	.8	2.0	0	0
ESE	1.0	2.0	0	0
SE	.6	1.6	0	0
SSE	1.1	2.3	0	0
S	1.2	3.0	1	2
SSW	1.3	2.8	0	1
SW	1.1	3.0	11	7
WSW	1.9	3.4	44	24
W	.5	2.1	0	0
WNW	.6	3.0	2	2
NW	1.2	3.5	15	25
NNW	1.5	3.6	29	36
N	.6	2.5	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.6	0	0
NE	.5	1.6	0	0
ENE	.8	1.9	0	1
E	.5	2.3	0	0
ESE	.7	1.8	0	0
SE	.8	2.0	0	0
SSE	1.0	2.5	0	0
S	1.3	2.8	3	5
SSW	1.5	3.2	12	7
SW	1.5	3.1	63	36
WSW	.9	2.5	4	0
W	1.4	2.8	10	42
WNW	.8	2.2	3	2
NW	1.0	2.2	2	4
NNW	1.0	2.2	4	1
N	.7	1.8	0	0

TABLE E-198

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.1	0	0
NE	.8	1.8	0	0
ENE	.9	2.3	0	0
E	1.7	3.3	0	2
ESE	2.2	3.2	11	13
SE	1.4	2.5	0	0
SSE	1.3	2.7	0	0
S	1.3	2.8	0	0
SSW	.8	2.3	0	0
SW	1.5	3.0	5	5
WSW	2.5	3.9	80	75
W	1.4	2.5	0	2
WNW	1.1	2.5	0	0
NW	1.3	2.4	0	1
NNW	1.4	2.9	4	3
N	1.2	2.8	0	0

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	2.0	0	0
NE	.7	2.0	0	0
ENE	1.2	2.5	0	2
E	1.8	3.1	0	5
ESE	2.2	3.2	20	21
SE	1.6	2.8	0	0
SSE	1.3	2.4	0	0
S	1.4	2.5	0	0
SSW	.9	2.5	0	0
SW	1.5	3.2	7	7
WSW	2.3	3.8	70	61
W	1.4	2.6	0	3
WNW	1.2	2.3	1	1
NW	1.1	2.5	0	0
NNW	1.1	2.4	1	0
N	.9	2.7	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.6	0	0
NE	.4	1.6	0	0
ENE	.7	1.9	0	0
E	1.0	2.5	0	0
ESE	1.3	3.1	0	0
SE	1.1	2.5	0	0
SSE	.8	2.2	0	0
S	.7	1.8	0	0
SSW	1.0	2.3	0	0
SW	1.9	3.6	13	13
WSW	2.8	4.3	87	84
W	1.6	3.0	0	3
WNW	1.0	2.5	0	0
NW	1.2	2.4	0	0
NNW	.6	1.8	0	0
N	.5	1.8	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.6	0	0
NE	.9	2.2	0	0
ENE	1.0	2.5	0	0
E	1.7	3.2	0	1
ESE	2.3	3.5	10	11
SE	1.6	2.6	0	0
SSE	1.3	2.4	0	0
S	1.3	2.7	0	0
SSW	.8	2.2	0	0
SW	1.3	2.8	0	0
WSW	2.7	4.2	82	73
W	1.3	2.6	0	0
WNW	1.4	2.7	1	2
NW	1.5	2.8	1	4
NNW	1.7	3.2	6	5
N	1.8	3.5	0	4

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.3	0	0
NE	.9	2.1	0	0
ENE	1.2	2.6	0	2
E	1.8	2.9	0	6
ESE	2.2	3.2	24	23
SE	1.7	2.6	0	0
SSE	1.4	2.4	0	0
S	1.4	2.4	0	0
SSW	1.1	2.5	0	0
SW	1.2	2.8	1	1
WSW	2.2	3.8	67	54
W	1.2	2.8	0	1
WNW	1.3	2.7	4	9
NW	1.2	3.6	0	1
NNW	1.2	2.6	3	1
N	1.1	2.6	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	1.4	0	0
NE	.5	1.5	0	0
ENE	.8	1.8	0	0
E	1.0	2.4	0	0
ESE	1.2	3.0	0	0
SE	1.1	2.6	0	0
SSE	.8	2.3	0	0
S	.7	2.1	0	0
SSW	1.0	2.4	0	0
SW	1.6	3.5	10	8
WSW	2.5	4.3	89	77
W	1.6	3.3	0	10
WNW	1.2	2.6	0	0
NW	1.4	2.8	1	4
NNW	.6	1.7	0	0
N	.8	1.6	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.9	0	0
NE	1.2	2.5	0	0
ENE	1.3	2.5	0	1
E	1.8	3.0	0	2
ESE	2.2	3.3	6	6
SE	1.7	2.7	0	0
SSE	1.3	2.4	0	0
S	1.3	2.6	0	0
SSW	.8	3.2	0	0
SW	1.5	3.0	1	1
WSW	2.8	4.4	90	81
W	1.5	2.7	0	2
WNW	1.6	2.7	3	6
NW	1.3	2.6	0	0
NNW	1.1	2.4	0	0
N	1.1	2.5	0	0

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.8	0	0
NE	1.1	2.8	1	0
ENE	1.4	2.7	0	3
E	1.9	3.0	0	5
ESE	2.3	3.4	18	16
SE	1.8	2.6	0	0
SSE	1.5	2.7	0	0
S	1.5	2.6	0	1
SSW	1.2	2.5	0	0
SW	1.3	3.0	1	1
WSW	2.4	4.0	75	59
W	1.5	3.1	0	7
WNW	1.4	2.7	4	8
NW	1.1	2.6	0	0
NNW	1.1	2.4	0	0
N	1.1	3.0	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.7	0	0
NE	.6	1.7	0	0
ENE	.8	1.8	0	0
E	.9	2.0	0	0
ESE	1.1	2.3	0	0
SE	1.0	2.2	0	0
SSE	.9	2.6	0	0
S	.7	2.0	0	0
SSW	1.0	2.5	0	0
SW	2.0	3.7	21	18
WSW	2.7	4.4	79	69
W	1.7	3.2	0	13
WNW	1.1	2.7	0	0
NW	1.1	2.2	0	0
NNW	.8	1.9	0	0
N	.6	1.6	0	0

TABLE E-199

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.1	0	0
NE	.8	1.8	0	0
ENE	.9	2.3	0	2
E	1.7	3.3	0	3
ESE	2.2	3.2	7	7
SE	1.4	2.5	0	0
SSE	1.3	2.7	0	0
S	1.3	2.8	0	1
SSW	.8	2.3	0	0
SW	1.5	3.0	14	12
WSW	2.5	3.9	71	62
W	1.4	2.5	0	4
WNW	1.1	2.5	1	1
NW	1.3	2.4	0	1
NNW	1.4	2.9	7	6
N	1.2	2.8	0	1

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	2.0	0	0
NE	.7	2.0	0	0
ENE	1.2	2.5	0	4
E	1.8	3.1	0	4
ESE	2.2	3.2	9	9
SE	1.6	2.8	0	0
SSE	1.3	2.4	0	0
S	1.4	2.5	0	1
SSW	.9	2.5	0	0
SW	1.5	3.2	20	16
WSW	2.3	3.8	66	54
W	1.4	2.6	0	6
WNW	1.2	2.3	2	3
NW	1.1	2.5	0	2
NNW	1.1	2.4	2	1
N	.9	2.7	0	1

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.6	0	0
NE	.4	1.6	0	0
ENE	.7	1.9	0	0
E	1.0	2.5	0	0
ESE	1.3	3.1	0	0
SE	1.1	2.5	0	0
SSE	.8	2.2	0	0
S	.7	1.8	0	0
SSW	1.0	2.3	0	0
SW	1.9	3.6	27	25
WSW	2.8	4.3	72	66
W	1.6	3.0	0	8
WNW	1.0	2.5	0	0
NW	1.2	2.4	0	1
NNW	.5	1.8	0	0
N	.5	1.8	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.6	0	0
NE	.9	2.2	0	0
ENE	1.0	2.5	0	1
E	1.7	3.2	0	1
ESE	2.3	3.5	7	7
SE	1.6	2.6	0	0
SSE	1.3	2.4	0	0
S	1.3	2.7	0	0
SSW	.8	2.2	0	0
SW	1.3	2.8	2	1
WSW	2.7	4.2	73	57
W	1.3	2.6	0	1
WNW	1.4	2.7	2	3
NW	1.5	2.8	2	5
NNW	1.7	3.2	14	16
N	1.8	3.5	0	8

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.3	0	0
NE	.9	2.1	1	0
ENE	1.2	2.6	0	3
E	1.8	2.9	0	3
ESE	2.2	3.2	10	9
SE	1.7	2.6	0	0
SSE	1.4	2.4	0	0
S	1.4	2.4	0	0
SSW	1.1	2.5	0	0
SW	1.2	2.8	7	5
WSW	2.2	3.8	69	51
W	1.2	2.8	0	5
WNW	1.3	2.7	5	9
NW	1.2	3.6	3	10
NNW	1.2	2.6	5	4
N	1.1	2.6	0	1

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	1.4	0	0
NE	.5	1.5	0	0
ENE	.8	1.8	0	0
E	1.0	2.4	0	0
ESE	1.2	3.0	0	0
SE	1.1	2.6	0	0
SSE	.8	2.3	0	0
S	.7	2.1	0	0
SSW	1.0	2.4	0	0
SW	1.6	3.5	20	15
WSW	2.5	4.3	75	58
W	1.6	3.3	1	20
WNW	1.2	2.6	1	1
NW	1.4	2.8	2	6
NNW	.6	1.7	0	0
N	.8	1.6	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.9	0	0
NE	1.2	2.5	1	0
ENE	1.3	2.5	0	3
E	1.8	3.0	0	2
ESE	2.2	3.3	4	4
SE	1.7	2.7	0	0
SSE	1.3	2.4	0	0
S	1.3	2.6	0	0
SSW	.8	3.2	0	0
SW	1.5	3.0	5	4
WSW	2.8	4.4	84	72
W	1.5	2.7	0	3
WNW	1.6	2.7	4	8
NW	1.3	2.6	0	2
NNW	1.1	2.4	1	0
N	1.1	2.5	0	0

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.8	0	0
NE	1.1	2.8	2	1
ENE	1.4	2.7	0	6
E	1.9	3.0	0	3
ESE	2.3	3.4	8	6
SE	1.8	2.8	0	0
SSE	1.5	2.7	0	0
S	1.5	2.6	0	0
SSW	1.2	2.5	0	0
SW	1.3	3.0	7	5
WSW	2.4	4.0	75	56
W	1.5	3.1	1	12
WNW	1.4	2.7	5	8
NW	1.1	2.6	0	1
NNW	1.1	2.4	1	0
N	1.1	3.0	0	1

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.7	0	0
NE	.6	1.7	0	0
ENE	.8	1.8	0	0
E	.9	2.0	0	0
ESE	1.1	2.3	0	0
SE	1.0	2.2	0	0
SSE	.9	2.6	0	0
S	.7	2.0	0	0
SSW	1.0	2.5	0	0
SW	2.0	3.7	28	22
WSW	2.7	4.4	71	58
W	1.7	3.2	1	19
WNW	1.1	2.7	1	1
NW	1.1	2.2	0	0
NNW	.8	1.9	0	0
N	.6	1.6	0	0

TABLE E-200

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	2.1	0	0
NE	.8	1.9	0	0
ENE	.8	2.4	0	0
E	1.5	3.1	0	3
ESE	2.3	3.6	56	52
SE	1.6	2.9	0	0
SSE	1.6	3.0	0	0
S	1.7	3.1	4	11
SSW	1.0	2.7	0	0
SW	1.2	2.8	2	2
WSW	1.8	3.1	32	20
W	1.1	2.3	0	1
WNW	1.2	2.3	3	6
NW	1.2	2.6	1	2
NNW	1.1	2.4	1	0
N	1.1	2.7	0	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	1.6	0	0
NE	.6	1.7	0	0
ENE	.8	2.1	0	1
E	1.0	2.4	0	1
ESE	1.0	2.4	0	0
SE	1.1	2.7	0	0
SSE	1.4	2.9	1	1
S	1.7	3.0	23	42
SSW	1.6	3.2	23	14
SW	1.4	3.0	50	40
WSW	1.0	2.7	2	0
W	.6	2.0	0	0
WNW	.6	1.6	0	0
NW	.7	1.9	0	0
NNW	.8	2.0	1	0
N	.6	1.8	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.1	0	0
NE	.7	2.1	0	0
ENE	.6	1.8	0	0
E	.7	2.0	0	0
ESE	1.0	2.0	0	0
SE	1.0	2.2	0	0
SSE	.5	2.0	0	0
S	.6	2.1	0	0
SSW	.7	2.5	0	0
SW	.9	2.7	0	0
WSW	1.3	2.7	6	0
W	1.3	3.0	1	4
WNW	1.5	3.4	39	43
NW	1.7	3.4	49	53
NNW	1.1	2.5	5	1
N	.4	2.1	0	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	2.2	0	0
NE	.8	2.4	0	0
ENE	1.0	2.7	0	1
E	1.9	3.5	0	9
ESE	2.5	4.1	60	58
SE	1.7	3.2	0	0
SSE	1.6	3.0	0	0
S	1.6	3.2	1	3
SSW	1.2	3.0	0	0
SW	1.0	2.8	0	0
WSW	1.9	3.6	38	27
W	1.0	2.4	0	0
WNW	1.2	2.2	1	1
NW	1.0	2.5	0	0
NNW	1.1	2.5	1	0
N	.7	2.2	0	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.0	0	0
NE	1.1	2.5	4	2
ENE	1.3	2.8	1	12
E	1.0	2.5	0	0
ESE	.9	2.6	0	0
SE	1.1	2.7	0	0
SSE	1.3	3.1	0	0
S	1.9	3.5	33	49
SSW	1.8	3.3	29	14
SW	1.4	3.2	33	23
WSW	1.0	2.6	1	0
W	.8	2.6	0	0
WNW	.6	2.0	0	0
NW	.8	1.9	0	0
NNW	.8	2.5	1	0
N	.5	1.6	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.8	0	0
NE	.6	2.1	0	0
ENE	.5	1.8	0	0
E	.6	2.4	0	0
ESE	1.0	2.2	0	0
SE	1.0	2.3	0	0
SSE	.8	2.5	0	0
S	.7	2.5	0	0
SSW	.7	2.6	0	0
SW	1.0	2.8	4	0
WSW	1.0	2.6	3	0
W	.9	2.6	0	0
WNW	1.2	2.6	22	16
NW	1.5	3.2	71	84
NNW	.7	2.2	0	0
N	.6	1.8	0	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.3	2.1	0	0
NE	.8	2.5	0	0
ENE	1.0	2.6	0	1
E	1.6	3.2	0	4
ESE	2.0	3.7	27	25
SE	1.7	2.9	0	1
SSE	1.6	3.2	0	1
S	1.5	3.2	1	4
SSW	1.2	3.0	0	0
SW	1.0	2.5	0	0
WSW	2.0	3.8	68	53
W	1.3	2.8	0	6
WNW	1.1	2.1	1	1
NW	1.1	2.2	0	1
NNW	1.1	2.6	3	1
N	1.2	3.1	0	1

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.1	0	0
NE	.9	2.5	2	1
ENE	1.5	2.6	5	18
E	.9	2.5	0	0
ESE	.8	2.4	0	0
SE	.8	2.3	0	0
SSE	1.2	2.5	0	0
S	1.9	3.4	42	56
SSW	1.8	3.3	31	13
SW	1.2	3.2	18	11
WSW	1.0	2.5	1	0
W	.8	2.3	0	0
WNW	.6	1.7	0	0
NW	.7	2.1	0	0
NNW	.6	2.3	2	1
N	.8	2.5	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	2.3	0	0
NE	.6	2.2	0	0
ENE	.5	1.5	0	0
E	.6	1.7	0	0
ESE	.6	1.8	0	0
SE	.8	2.3	0	0
SSE	.8	2.3	0	0
S	.8	2.5	0	0
SSW	.8	2.5	0	0
SW	1.0	2.8	10	2
WSW	.8	2.6	0	0
W	.8	2.3	0	0
WNW	1.2	2.8	47	51
NW	1.3	2.6	40	41
NNW	.9	2.3	6	1
N	1.3	3.2	2	6

TABLE E-201

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	2.1	0	0
NE	.8	1.9	0	0
ENE	.8	2.4	0	1
E	1.5	3.1	0	6
ESE	2.3	3.6	35	29
SE	1.6	2.9	0	0
SSE	1.6	3.0	0	1
S	1.7	3.1	6	13
SSW	1.0	2.7	0	0
SW	1.2	2.8	8	5
WSW	1.8	3.1	39	24
W	1.1	2.3	0	2
WNW	1.2	2.3	6	10
NW	1.2	2.6	1	4
NNW	1.1	2.4	3	1
N	1.1	2.7	0	2

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	1.6	0	0
NE	.6	1.7	0	0
ENE	.8	2.1	0	4
E	1.0	2.4	0	2
ESE	1.0	2.4	1	1
SE	1.1	2.7	0	1
SSE	1.2	2.6	1	2
S	1.7	3.0	13	27
SSW	1.6	3.2	12	10
SW	1.4	3.0	63	49
WSW	1.0	2.7	8	4
W	.6	2.0	0	0
WNW	.6	1.6	0	0
NW	.7	1.9	0	0
NNW	.8	2.0	1	0
N	.6	1.8	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.1	0	0
NE	.7	2.1	0	0
ENE	.6	1.8	0	0
E	.7	2.0	0	0
ESE	1.0	2.0	0	0
SE	1.0	2.2	0	0
SSE	.5	2.0	0	0
S	.6	2.1	0	0
SSW	.7	2.5	0	0
SW	.9	2.7	4	1
WSW	1.3	2.7	8	0
W	1.3	3.0	4	10
WNW	1.5	3.4	40	49
NW	1.7	3.4	38	40
NNW	1.1	2.5	5	0
N	.4	2.1	0	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	2.2	0	0
NE	.8	2.4	1	0
ENE	1.0	2.7	0	3
E	1.9	3.5	1	13
ESE	2.5	4.1	42	37
SE	1.7	3.2	0	0
SSE	1.6	3.0	0	0
S	1.6	3.2	2	6
SSW	1.2	3.0	0	1
SW	1.0	2.8	2	1
WSW	1.9	3.6	47	32
W	1.0	2.4	0	1
WNW	1.2	2.2	2	2
NW	1.0	2.5	0	0
NNW	1.1	2.5	3	1
N	.7	2.2	0	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.0	0	0
NE	1.1	2.5	5	3
ENE	1.3	2.8	2	15
E	1.0	2.5	0	0
ESE	.9	2.6	0	0
SE	1.1	2.7	0	0
SSE	1.3	3.1	1	1
S	1.9	3.5	18	31
SSW	1.8	3.3	14	10
SW	1.4	3.2	53	37
WSW	1.0	2.6	5	1
W	.8	2.6	0	1
WNW	.6	2.0	0	0
NW	.8	1.9	0	0
NNW	.8	2.5	2	1
N	.5	1.6	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.8	0	0
NE	.6	2.1	1	0
ENE	.5	1.4	0	0
E	.6	2.4	0	0
ESE	1.0	2.2	0	0
SE	1.0	2.3	0	0
SSE	.8	2.5	0	0
S	.7	2.5	0	0
SSW	.7	2.6	0	0
SW	1.0	2.8	11	3
WSW	1.0	2.6	7	0
W	.9	2.6	0	1
WNW	1.2	2.6	20	17
NW	1.5	3.2	59	79
NNW	.7	2.2	3	0
N	.6	1.8	0	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.3	2.1	0	0
NE	.8	2.5	1	0
ENE	1.0	2.6	0	4
E	1.6	3.2	0	6
ESE	2.0	3.7	21	17
SE	1.7	2.9	0	0
SSE	1.6	3.2	0	0
S	1.5	3.2	2	5
SSW	1.2	3.0	0	1
SW	1.0	2.5	2	1
WSW	2.0	3.8	67	47
W	1.3	2.8	0	9
WNW	1.1	2.1	1	0
NW	1.1	2.2	0	0
NNW	1.1	2.6	5	3
N	1.2	3.1	0	3

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.1	0	0
NE	.9	2.5	5	3
ENE	1.5	2.6	4	17
E	.9	2.5	0	1
ESE	.8	2.4	0	0
SE	.8	2.3	0	0
SSE	1.2	2.6	0	1
S	1.9	3.4	25	37
SSW	1.8	3.3	15	10
SW	1.2	3.2	41	27
WSW	1.0	2.5	6	1
W	.8	2.3	0	0
WNW	.6	1.7	0	0
NW	.7	2.1	0	0
NNW	.6	2.3	5	2
N	.8	2.5	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	2.3	0	0
NE	.6	2.2	1	0
ENE	.5	1.5	0	0
E	.6	1.7	0	0
ESE	.6	1.8	0	0
SE	.8	2.3	0	0
SSE	.8	2.3	0	0
S	.7	2.5	0	0
SSW	.8	2.5	0	0
SW	1.0	2.8	17	4
WSW	.8	2.6	7	0
W	.8	2.3	0	1
WNW	1.2	2.8	40	56
NW	1.3	2.8	28	31
NNW	.9	2.3	6	1
N	1.3	3.2	2	7

TABLE E-202

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.5	0	0
NE	.9	2.2	2	0
ENE	.7	2.1	0	0
E	1.3	2.6	0	1
ESE	1.4	2.6	9	2
SE	1.4	3.0	0	0
SSE	1.1	3.1	0	0
S	.9	2.4	0	0
SSW	.9	2.4	0	0
SW	1.1	2.9	6	1
WSW	1.3	2.9	20	3
W	1.4	3.0	17	34
WNW	1.4	3.1	39	54
NW	1.1	2.3	5	4
NNW	.8	2.1	1	0
N	.6	2.3	0	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.0	0	0
NE	.8	2.5	1	0
ENE	.7	2.0	0	0
E	1.3	2.6	0	3
ESE	1.3	2.5	5	2
SE	1.5	2.8	1	1
SSE	1.1	2.8	0	0
S	.9	2.8	0	0
SSW	1.0	2.4	0	0
SW	1.1	2.8	15	6
WSW	1.3	2.9	32	9
W	1.2	2.7	3	14
WNW	1.3	2.8	32	55
NW	1.1	2.6	7	8
NNW	.9	2.4	4	1
N	1.1	2.8	0	2

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.0	0	0
NE	.7	1.9	0	0
ENE	1.1	2.5	0	3
E	1.1	2.5	0	0
ESE	1.6	2.8	5	6
SE	1.0	2.0	0	0
SSE	.5	1.5	0	0
S	.5	1.1	0	0
SSW	.7	2.1	0	0
SW	1.3	3.0	9	9
WSW	2.0	4.2	86	81
W	1.0	3.1	0	0
WNW	.5	1.5	0	0
NW	.6	1.8	0	0
NNW	.8	1.8	0	0
N	.6	1.8	0	0

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	2.0	0	0
NE	.8	2.1	0	0
ENE	1.1	2.4	0	4
E	1.1	2.2	0	1
ESE	1.4	2.6	2	3
SE	1.1	2.1	0	0
SSE	.6	1.6	0	0
S	.4	1.3	0	0
SSW	.6	2.0	0	0
SW	1.4	3.2	14	14
WSW	2.0	4.0	84	80
W	.6	2.1	0	0
WNW	.5	2.0	0	0
NW	.7	2.1	0	0
NNW	.8	1.8	0	0
N	.7	2.2	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.1	0	0
NE	.6	1.9	0	0
ENE	.6	2.0	0	0
E	.8	2.4	0	0
ESE	.6	1.8	0	0
SE	.6	1.9	0	0
SSE	.9	2.2	0	0
S	.6	2.0	0	0
SSW	.6	2.0	0	0
SW	.4	1.5	0	0
WSW	.4	1.5	0	0
W	1.4	2.4	15	21
WNW	1.4	2.4	36	35
NW	1.5	2.5	46	44
NNW	1.0	2.1	3	0
N	.9	2.0	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.0	0	0
NE	.7	1.8	0	0
ENE	1.0	2.5	0	2
E	1.3	2.8	0	1
ESE	1.5	2.7	15	4
SE	.6	1.9	0	0
SSE	.8	2.5	0	0
S	.7	2.3	0	0
SSW	.9	2.6	0	0
SW	.2	1.7	0	0
WSW	.9	1.6	0	0
W	1.4	2.6	11	20
WNW	1.3	2.3	29	28
NW	1.5	2.3	42	45
NNW	.9	2.1	3	0
N	.8	2.2	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.2	1	2
NE	.8	1.9	2	1
ENE	1.0	2.6	1	6
E	1.3	2.9	5	17
ESE	1.5	2.9	58	36
SE	1.2	2.5	0	1
SSE	1.3	3.1	2	2
S	1.1	3.6	6	8
SSW	1.0	2.9	0	1
SW	.4	1.6	0	0
WSW	.7	1.4	0	0
W	.3	2.0	0	0
WNW	.8	1.9	6	6
NW	.9	1.9	4	6
NNW	.9	2.1	10	5
N	1.0	2.1	1	5

TABLE E-203

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION | 1995 INTERIM-BUILD PRE-MITIGATION | 2000 FULL-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.5	0	0
NE	.9	2.2	2	0
ENE	.7	2.1	0	1
E	1.3	2.6	0	1
ESE	1.4	2.6	3	0
SE	1.4	3.0	0	0
SSE	1.1	3.1	0	0
S	.9	2.4	0	0
SSW	.9	2.4	0	0
SW	1.1	2.9	14	3
WSW	1.3	2.9	18	2
W	1.4	3.0	15	29
WNW	1.4	3.1	43	62
NW	1.1	2.3	3	2
NNW	.8	2.1	2	0
N	.6	2.3	0	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.0	0	0
NE	.8	2.5	3	1
ENE	.7	2.0	0	0
E	1.3	2.6	0	2
ESE	1.3	2.5	2	1
SE	1.5	2.8	0	0
SSE	1.1	2.8	0	0
S	.9	2.8	0	1
SSW	1.0	2.4	0	0
SW	1.1	2.8	21	9
WSW	1.3	2.9	30	9
W	1.2	2.7	3	14
WNW	1.3	2.8	29	52
NW	1.1	2.6	6	7
NNW	.9	2.4	5	1
N	1.1	2.8	0	2

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.0	0	0
NE	.7	1.9	0	0
ENE	1.1	2.5	0	5
E	1.1	2.5	0	0
ESE	1.6	2.8	2	2
SE	1.0	2.0	0	0
SSE	.5	1.5	0	0
S	.5	1.1	0	0
SSW	.7	2.1	0	9
SW	1.3	3.0	10	9
WSW	2.0	4.2	87	77
W	1.0	3.1	0	6
WNW	.5	1.5	0	0
NW	.6	1.8	0	0
NNW	.8	1.8	0	0
N	.6	1.8	0	0

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	2.0	0	0
NE	.8	2.1	1	0
ENE	1.1	2.4	0	6
E	1.1	2.2	0	0
ESE	1.4	2.6	1	1
SE	1.1	2.1	0	0
SSE	.6	1.6	0	0
S	.4	1.3	0	0
SSW	.6	2.0	0	0
SW	1.4	3.2	15	15
WSW	2.0	4.0	83	79
W	.6	2.1	0	0
WNW	.5	2.0	0	0
NW	.7	2.1	0	0
NNW	.8	1.8	0	0
N	.7	2.2	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.1	0	0
NE	.6	1.9	1	0
ENE	.6	2.0	0	1
E	.8	2.4	0	0
ESE	.6	1.8	0	0
SE	.6	1.9	0	0
SSE	.9	2.2	0	0
S	.6	2.0	0	0
SSW	.6	2.0	0	0
SW	.4	1.5	0	0
WSW	.4	1.5	0	0
W	1.4	2.4	15	23
WNW	1.4	2.4	32	31
NW	1.5	2.5	42	43
NNW	1.0	2.1	10	2
N	.9	2.0	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.0	0	0
NE	.7	1.8	1	0
ENE	1.0	2.5	2	7
E	1.3	2.8	1	6
ESE	1.5	2.7	19	5
SE	.6	1.9	0	0
SSE	.8	2.5	0	0
S	.7	2.3	0	0
SSW	.9	2.6	0	1
SW	.2	1.7	0	0
WSW	.9	1.6	1	0
W	1.4	2.6	9	18
WNW	1.3	2.3	29	29
NW	1.5	2.3	31	32
NNW	.9	2.1	7	1
N	.8	2.2	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.2	1	1
NE	.8	1.9	2	1
ENE	1.0	2.6	2	11
E	1.3	2.9	2	12
ESE	1.5	2.9	31	17
SE	1.2	2.5	0	0
SSE	1.3	3.1	2	2
S	1.1	3.6	40	42
SSW	1.0	2.9	4	4
SW	.4	1.6	0	0
WSW	.7	1.4	0	0
W	.3	2.0	0	0
WNW	.8	1.9	3	2
NW	.9	1.9	2	5
NNW	.9	2.1	10	5
N	1.0	2.1	0	1

TABLE E-204

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION					1995 INTERIM-BUILD PRE-MITIGATION					2000 FULL-BUILD PRE-MITIGATION				
LOCATION 64					LOCATION 64					LOCATION 64				
WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	1.7	0	1	NNE	1.0	1.7	2	3	NNE	1.2	1.9	1	1
NE	.1	1.6	0	0	NE	.4	1.4	0	0	NE	1.0	1.8	6	2
ENE	.3	1.6	0	0	ENE	.5	1.5	0	0	ENE	.4	1.7	0	0
E	.7	2.0	0	0	E	.8	2.2	0	0	E	1.2	2.7	0	2
ESE	.6	1.6	0	0	ESE	.7	1.9	0	0	ESE	.8	1.8	0	0
SE	.1	1.7	0	0	SE	.6	1.5	0	0	SE	.6	1.5	0	0
SSE	.1	1.7	0	0	SSE	.7	1.5	0	0	SSE	.5	1.7	0	0
S	.6	1.8	0	0	S	.7	1.7	0	0	S	1.1	2.1	0	0
SSW	.6	1.5	0	0	SSW	.8	1.6	0	0	SSW	.8	1.8	0	0
SW	1.1	2.3	36	30	SW	1.1	2.4	47	33	SW	.8	2.0	1	0
WSW	1.2	2.2	42	32	WSW	1.1	2.0	27	14	WSW	1.1	2.4	13	1
W	.6	2.0	0	0	W	.7	2.0	0	1	W	1.4	2.5	30	46
WNW	.7	1.9	0	0	WNW	.1	1.6	0	0	WNW	1.2	2.3	36	43
NW	.7	2.0	0	0	NW	.9	2.1	6	16	NW	.7	2.0	0	0
NNW	1.1	2.0	23	34	NNW	1.0	2.1	18	20	NNW	1.1	2.4	11	3
N	.8	1.6	0	2	N	1.0	1.9	1	12	N	1.2	2.0	1	3
LOCATION 65					LOCATION 65					LOCATION 65				
WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.3	2.1	14	11	NNE	1.2	2.0	11	11	NNE	1.2	2.2	3	1
NE	.9	1.8	9	4	NE	.7	1.7	3	1	NE	1.1	2.2	11	3
ENE	.6	2.0	0	1	ENE	.6	1.5	0	2	ENE	.8	1.8	0	1
E	.7	1.6	0	0	E	.9	1.9	0	2	E	1.0	2.0	0	0
ESE	.8	1.7	1	0	ESE	1.0	2.4	9	4	ESE	1.0	2.2	1	0
SE	.6	2.0	0	0	SE	.7	1.5	0	0	SE	.6	1.4	0	0
SSE	.6	1.7	0	0	SSE	.6	1.4	0	0	SSE	1.0	1.8	0	0
S	.7	1.9	0	0	S	.6	1.4	0	0	S	1.2	2.0	4	2
SSW	.5	1.7	0	0	SSW	.7	1.7	0	0	SSW	.8	1.7	0	0
SW	.5	1.5	0	0	SW	.5	1.5	0	0	SW	.9	1.7	4	0
WSW	1.0	2.0	21	3	WSW	1.1	1.9	53	23	WSW	.9	1.7	2	0
W	1.0	1.9	18	36	W	1.0	1.8	13	42	W	.9	2.1	0	1
WNW	1.0	1.9	30	38	WNW	.7	1.6	4	3	WNW	1.3	2.3	72	93
NW	.6	1.7	0	0	NW	.7	1.7	1	0	NW	.7	1.8	0	0
NNW	.7	2.0	5	1	NNW	.7	1.7	4	1	NNW	.7	1.8	1	0
N	1.0	2.0	2	7	N	1.0	1.9	2	10	N	.9	2.0	0	0
LOCATION 66					LOCATION 66					LOCATION 66				
WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	1.7	4	5	NNE	.6	1.5	1	1	NNE	1.0	1.8	4	3
NE	.5	1.4	2	0	NE	.4	1.3	1	0	NE	.6	1.6	1	0
ENE	.4	1.5	0	1	ENE	.5	1.3	0	4	ENE	.5	1.3	0	0
E	.7	1.6	0	6	E	.5	1.4	0	0	E	.6	1.5	0	0
ESE	.5	1.3	0	0	ESE	.6	1.3	3	1	ESE	.5	1.4	0	0
SE	.4	1.6	0	0	SE	.5	1.2	0	0	SE	.4	1.3	0	0
SSE	.4	1.5	0	0	SSE	.1	1.2	0	0	SSE	.4	1.3	0	0
S	.1	1.4	0	0	S	.5	1.2	0	0	S	.7	1.6	0	0
SSW	.2	1.7	0	0	SSW	.3	1.2	0	0	SSW	.5	1.4	0	0
SW	.7	1.5	37	17	SW	.4	1.3	1	0	SW	.6	1.4	1	0
WSW	.1	1.5	0	0	WSW	.5	1.3	2	0	WSW	.2	1.4	0	0
W	.1	1.4	0	0	W	.2	1.3	0	0	W	.9	1.8	5	11
WNW	.5	1.7	4	2	WNW	.7	1.5	38	51	WNW	.9	1.9	41	48
NW	.6	1.8	6	8	NW	.6	1.7	9	7	NW	.7	1.9	2	0
NNW	.7	1.8	36	35	NNW	.7	1.6	45	37	NNW	1.0	2.4	34	20
N	.8	1.7	9	25	N	.5	1.4	0	1	N	1.1	2.0	10	18

TABLE E-205

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION					1995 INTERIM-BUILD PRE-MITIGATION					2000 FULL-BUILD PRE-MITIGATION				
LOCATION 64					LOCATION 64					LOCATION 64				
WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	1.7	0	0	NNE	1.0	1.7	0	1	NNE	1.2	1.9	0	0
NE	.1	1.6	0	0	NE	.4	1.4	0	0	NE	1.0	1.8	4	1
ENE	.3	1.6	0	0	ENE	.5	1.5	0	0	ENE	.4	1.7	0	0
E	.7	2.0	0	1	E	.8	2.2	0	2	E	1.2	2.7	0	5
ESE	.6	1.6	0	0	ESE	.7	1.9	0	0	ESE	.8	1.8	0	0
SE	.1	1.7	0	0	SE	.6	1.5	0	0	SE	.6	1.5	0	0
SSE	.1	1.7	0	0	SSE	.7	1.5	0	0	SSE	.5	1.7	0	0
S	.6	1.8	0	0	S	.7	1.7	0	0	S	1.1	2.1	1	1
SSW	.6	1.5	0	0	SSW	.8	1.6	0	0	SSW	.8	1.8	0	0
SW	1.1	2.3	48	40	SW	1.1	2.4	53	35	SW	.8	2.0	5	1
WSW	1.2	2.2	35	26	WSW	1.1	2.0	22	10	WSW	1.1	2.4	16	2
W	.6	2.0	0	7	W	.7	2.0	0	10	W	1.4	2.5	19	37
WNW	.7	1.9	0	0	WNW	.1	1.6	0	0	WNW	1.2	2.3	34	45
NW	.7	2.0	1	5	NW	.9	2.1	8	22	NW	.7	2.0	1	1
NNW	1.1	2.0	16	22	NNW	1.0	2.1	15	15	NNW	1.1	2.4	18	8
N	.8	1.6	0	1	N	1.0	1.9	0	4	N	1.2	2.0	0	0
LOCATION 65					LOCATION 65					LOCATION 65				
WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.3	2.1	7	7	NNE	1.2	2.0	6	7	NNE	1.2	2.2	3	2
NE	.8	1.8	15	8	NE	.7	1.7	6	3	NE	1.1	2.2	17	6
ENE	.6	2.0	0	3	ENE	.6	1.5	0	2	ENE	.8	1.8	0	1
E	.7	1.6	0	0	E	.9	1.9	0	2	E	1.0	2.0	0	0
ESE	.8	1.7	0	0	ESE	1.0	2.4	20	11	ESE	1.0	2.2	1	0
SE	.6	2.0	0	0	SE	.7	1.5	0	0	SE	.6	1.4	0	0
SSE	.6	1.7	0	0	SSE	.6	1.4	0	0	SSE	1.0	1.8	0	0
S	.7	1.9	0	0	S	.6	1.4	0	0	S	1.2	2.0	1	1
SSW	.5	1.7	0	0	SSW	.7	1.7	0	0	SSW	.8	1.7	0	0
SW	.5	1.5	1	0	SW	.5	1.5	0	0	SW	.9	1.7	3	0
WSW	1.0	2.0	34	10	WSW	1.1	1.9	42	18	WSW	.9	1.7	3	0
W	1.0	1.9	17	46	W	1.0	1.8	7	31	W	.9	2.1	1	2
WNW	1.0	1.9	2	1	WNW	.7	1.6	6	6	WNW	1.3	2.3	62	85
NW	.6	1.7	2	2	NW	.7	1.7	3	4	NW	.7	1.8	2	0
NNW	.7	2.0	16	9	NNW	.7	1.7	6	4	NNW	.7	1.8	6	1
N	1.0	2.0	3	12	N	1.0	1.9	2	11	N	.9	2.0	0	1
LOCATION 66					LOCATION 66					LOCATION 66				
WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT	WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	1.7	4	4	NNE	.6	1.5	1	0	NNE	1.0	1.8	1	1
NE	.5	1.4	0	0	NE	.4	1.3	1	0	NE	.6	1.6	3	1
ENE	.4	1.5	0	0	ENE	.5	1.3	0	3	ENE	.5	1.3	0	0
E	.7	1.6	0	0	E	.5	1.4	0	0	E	.6	1.5	0	0
ESE	.5	1.3	0	0	ESE	.6	1.3	1	0	ESE	.5	1.4	0	0
SE	.4	1.6	0	0	SE	.5	1.2	0	0	SE	.4	1.3	0	0
SSE	.4	1.5	0	0	SSE	.1	1.2	0	0	SSE	.4	1.3	0	0
S	.1	1.4	0	0	S	.5	1.2	0	0	S	.7	1.6	0	0
SSW	.2	1.7	0	0	SSW	.3	1.2	0	0	SSW	.5	1.4	0	0
SW	.7	1.5	17	6	SW	.4	1.3	1	0	SW	.6	1.4	0	0
WSW	.1	1.5	3	0	WSW	.5	1.3	1	0	WSW	.2	1.4	0	0
W	.1	1.4	0	0	W	.2	1.3	0	0	W	.9	1.8	3	9
WNW	.5	1.7	0	0	WNW	.7	1.5	26	26	WNW	.9	1.9	27	28
NW	.6	1.8	27	36	NW	.6	1.7	44	53	NW	.7	1.9	12	10
NNW	.7	1.8	42	38	NNW	.7	1.6	27	15	NNW	1.0	2.4	48	40
N	.8	1.7	6	17	N	.5	1.4	1	3	N	1.1	2.0	4	10

TABLE E-206

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.8	8	6
NE	.1	1.6	0	0
ENE	.4	1.5	0	1
E	.4	1.9	0	0
ESE	.5	1.3	0	0
SE	.1	1.9	0	0
SSE	.1	1.7	0	0
S	.1	1.6	0	0
SSW	.3	1.6	0	0
SW	.5	1.5	8	2
WSW	.3	1.5	0	0
W	.4	1.4	0	0
WNW	.6	1.7	26	31
NW	.6	1.9	9	8
NNW	.7	2.0	39	31
N	.8	1.9	10	22

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.4	0	1
NE	.4	1.5	2	3
ENE	.4	1.4	0	4
E	.4	1.9	0	1
ESE	.1	1.9	0	0
SE	.1	2.0	0	0
SSE	.2	1.4	0	0
S	.1	1.5	0	0
SSW	.1	1.5	0	0
SW	.3	1.6	0	0
WSW	.1	1.3	0	0
W	.1	1.3	0	0
WNW	.5	1.7	9	63
NW	.3	1.6	0	0
NNW	.5	1.5	10	25
N	.5	1.6	0	7

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.4	0	0
NE	.5	1.6	3	5
ENE	.1	1.6	0	0
E	.4	1.5	0	1
ESE	.2	1.3	0	0
SE	.1	1.7	0	0
SSE	.3	1.4	0	0
S	.1	1.5	0	0
SSW	.1	1.6	0	0
SW	.3	1.3	0	0
WSW	.3	1.4	0	0
W	.1	1.4	0	0
WNW	.3	1.4	0	1
NW	.1	1.6	0	0
NNW	.4	1.5	3	8
N	.4	1.6	0	1

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.8	6	4
NE	.2	1.4	0	0
ENE	.6	1.5	0	4
E	.5	1.4	0	0
ESE	.4	1.2	0	0
SE	.4	1.2	0	0
SSE	.3	1.2	0	0
S	.5	1.2	0	0
SSW	.6	1.3	0	0
SW	.6	1.3	11	2
WSW	.4	1.3	0	0
W	.5	1.4	0	0
WNW	.7	1.5	44	56
NW	.6	1.7	6	3
NNW	.7	1.8	19	7
N	.9	1.9	13	23

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.3	1.3	0	0
NE	.1	1.2	0	0
ENE	.6	1.3	1	16
E	.3	1.2	0	0
ESE	.6	1.3	4	11
SE	.4	1.2	0	0
SSE	.1	1.1	0	0
S	.5	1.2	0	2
SSW	.4	1.2	0	1
SW	.4	1.2	2	4
WSW	.3	1.2	0	0
W	.1	1.2	0	0
WNW	.5	1.4	9	65
NW	.1	1.3	0	0
NNW	.1	1.3	0	0
N	.1	1.3	0	0

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.2	0	0
NE	.1	1.3	0	0
ENE	.3	1.3	0	1
E	.4	1.2	0	0
ESE	.4	1.1	0	0
SE	.4	1.2	0	0
SSE	.1	1.1	0	0
S	.4	1.2	0	1
SSW	.4	1.2	0	1
SW	.3	1.2	0	0
WSW	.1	1.1	0	0
W	.3	1.2	0	0
WNW	.1	1.2	0	0
NW	.1	1.2	0	0
NNW	.1	1.2	0	0
N	.1	1.2	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.4	2.5	6	4
NE	.9	2.2	4	1
ENE	.5	1.6	0	0
E	.7	1.5	0	0
ESE	.4	1.3	0	0
SE	.2	1.3	0	0
SSE	.4	1.3	0	0
S	.9	1.7	0	0
SSW	.7	1.5	0	0
SW	.5	1.4	0	0
WSW	.5	1.5	0	0
W	.7	1.7	0	0
WNW	1.1	2.0	21	18
NW	.8	2.2	0	0
NNW	1.3	2.8	32	20
N	1.8	2.9	38	56

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.5	3	13
NE	.1	1.4	0	0
ENE	.5	1.4	0	11
E	.6	1.3	0	10
ESE	.3	1.3	0	0
SE	.1	1.2	0	0
SSE	.2	1.3	0	0
S	.4	1.4	0	0
SSW	.5	1.4	0	2
SW	.3	1.3	0	1
WSW	.4	1.4	0	0
W	.1	1.4	0	0
WNW	.3	1.4	0	1
NW	.2	1.4	0	0
NNW	.1	1.4	0	0
N	.6	1.5	1	26

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.3	0	0
NE	.3	1.3	0	0
ENE	.4	1.3	0	5
E	.1	1.3	0	0
ESE	.1	1.3	0	0
SE	.1	1.2	0	0
SSE	.1	1.3	0	0
S	.5	1.4	0	2
SSW	.2	1.4	0	0
SW	.3	1.3	0	1
WSW	.5	1.3	2	5
W	.1	1.4	0	0
WNW	.1	1.6	0	0
NW	.1	1.3	0	0
NNW	.1	1.5	0	0
N	.1	1.4	0	0

TABLE E-207

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.8	5	4
NE	.1	1.6	1	0
ENE	.4	1.5	0	0
E	.4	1.9	0	0
ESE	.5	1.3	0	0
SE	.1	1.9	0	0
SSE	.1	1.7	0	0
S	.1	1.6	0	0
SSW	.3	1.6	0	0
SW	.5	1.5	10	3
WSW	.3	1.5	0	0
W	.4	1.4	0	3
WNW	.6	1.7	0	0
NW	.6	1.9	20	22
NNW	.7	2.0	53	50
N	.8	1.9	8	18

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.4	0	0
NE	.4	1.5	0	0
ENE	.4	1.4	0	0
E	.4	1.9	0	3
ESE	.1	1.9	9	2
SE	.1	2.0	0	0
SSE	.2	1.4	0	0
S	.1	1.5	0	0
SSW	.1	1.5	0	0
SW	.3	1.6	22	5
WSW	.1	1.3	0	0
W	.1	1.3	0	0
WNW	.5	1.7	66	94
NW	.3	1.6	0	0
NNW	.5	1.5	1	0
N	.5	1.6	0	0

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.4	0	0
NE	.5	1.6	1	0
ENE	.1	1.6	0	0
E	.4	1.5	0	0
ESE	.2	1.3	0	0
SE	.1	1.7	39	12
SSE	.3	1.4	0	0
S	.1	1.5	0	0
SSW	.1	1.6	0	0
SW	.3	1.3	3	1
WSW	.3	1.4	0	0
W	.1	1.4	21	57
WNW	.3	1.4	0	0
NW	.1	1.6	2	2
NNW	.4	1.5	31	29
N	.4	1.6	0	0

1995 INTERIM-BUILD PPE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.8	5	4
NE	.2	1.4	1	0
ENE	.6	1.5	0	3
E	.5	1.4	0	0
ESE	.4	1.2	0	0
SE	.4	1.2	0	0
SSE	.3	1.2	0	0
S	.5	1.2	0	0
SSW	.6	1.3	0	0
SW	.6	1.3	1	0
WSW	.4	1.3	0	0
W	.5	1.4	0	1
WNW	.7	1.5	23	23
NW	.6	1.7	24	25
NNW	.7	1.8	35	24
N	.9	1.9	10	20

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.3	1.3	0	0
NE	.1	1.2	1	0
ENE	.6	1.3	7	14
E	.3	1.2	0	0
ESE	.6	1.3	10	2
SE	.4	1.2	0	0
SSE	.1	1.1	0	0
S	.5	1.2	3	2
SSW	.4	1.2	0	0
SW	.4	1.2	7	1
WSW	.3	1.2	11	1
W	.1	1.2	0	0
WNW	.5	1.4	52	74
NW	.1	1.3	0	0
NNW	.1	1.3	4	0
N	.1	1.3	2	6

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.2	0	0
NE	.1	1.3	22	24
ENE	.3	1.3	1	17
E	.4	1.2	0	6
ESE	.4	1.1	0	0
SE	.4	1.2	0	2
SSE	.1	1.1	0	0
S	.4	1.2	2	10
SSW	.4	1.2	1	5
SW	.3	1.2	0	0
WSW	.1	1.1	0	0
W	.3	1.2	1	32
WNW	.1	1.2	0	0
NW	.1	1.2	0	0
NNW	.1	1.2	0	0
N	.1	1.2	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 67

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.4	2.5	3	3
NE	.9	2.2	7	2
ENE	.5	1.6	0	0
E	.7	1.5	0	0
ESE	.4	1.4	0	0
SE	.2	1.3	0	0
SSE	.4	1.3	0	0
S	.9	1.7	0	0
SSW	.7	1.5	0	0
SW	.5	1.4	0	0
WSW	.5	1.5	0	0
W	.7	1.7	0	0
WNW	1.1	2.0	11	7
NW	.8	2.2	3	2
NNW	1.3	2.8	58	55
N	1.8	2.9	17	31

LOCATION 68

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.5	11	9
NE	.1	1.4	2	0
ENE	.5	1.4	0	0
E	.6	1.3	0	2
ESE	.3	1.3	0	0
SE	.1	1.2	0	0
SSE	.2	1.3	0	0
S	.4	1.4	0	0
SSW	.5	1.4	0	0
SW	.3	1.3	4	1
WSW	.4	1.4	16	2
W	.1	1.4	0	0
WNW	.3	1.4	36	51
NW	.2	1.4	4	3
NNW	.1	1.4	17	7
N	.6	1.5	12	24

LOCATION 69

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.3	0	0
NE	.3	1.3	0	0
ENE	.4	1.3	0	5
E	.1	1.3	0	0
ESE	.1	1.3	0	0
SE	.1	1.2	0	0
SSE	.1	1.3	0	2
S	.5	1.4	3	30
SSW	.2	1.4	0	5
SW	.3	1.3	5	16
WSW	.5	1.3	2	5
W	.1	1.4	23	223
WNW	.1	1.6	72	475
NW	.1	1.3	701	***
NNW	.1	1.5	19	71
N	.1	1.4	0	9

TABLE E-208

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 70

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.7	3	3
NE	.5	1.7	1	0
ENE	.1	1.5	0	0
E	.1	2.3	0	0
ESE	.3	1.3	0	0
SE	.1	1.9	0	0
SSE	.3	1.3	0	0
S	.3	1.6	0	0
SSW	.4	1.5	0	0
SW	.5	1.4	1	0
WSW	.3	1.3	0	0
W	.1	2.4	0	0
WNW	.5	1.4	6	3
NW	.6	1.9	11	10
NNW	.9	1.9	67	70
N	.8	1.9	5	14

LOCATION 71

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	1.4	0	1
NE	.4	1.4	1	3
ENE	.4	1.7	0	4
E	.5	1.6	0	3
ESE	.3	1.4	0	0
SE	.1	1.7	0	0
SSE	.1	1.4	0	0
S	.1	1.3	0	0
SSW	.1	1.5	0	0
SW	.4	1.4	0	2
WSW	.1	1.3	0	0
W	.1	1.3	0	0
WNW	.2	1.5	0	0
NW	.1	1.7	0	0
NNW	.4	1.5	4	12
N	.3	1.4	0	0

LOCATION 72

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.6	0	1
NE	.8	2.2	1	0
ENE	.6	2.0	0	0
E	.8	2.1	0	0
ESE	1.2	3.0	2	1
SE	1.0	2.6	0	0
SSE	.5	2.2	0	0
S	.6	1.8	0	0
SSW	.5	1.7	0	0
SW	1.2	2.4	24	10
WSW	1.4	2.8	33	10
W	1.1	2.5	1	7
WNW	1.3	2.6	33	63
NW	1.1	2.3	3	4
NNW	.9	2.0	2	0
N	1.2	2.7	1	4

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 70

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.5	0	3
NE	.1	1.3	0	0
ENE	.5	1.3	0	12
E	.5	1.3	0	5
ESE	.6	1.3	2	8
SE	.4	1.2	0	0
SSE	.2	1.1	0	0
S	.4	1.2	0	0
SSW	.5	1.2	0	2
SW	.5	1.3	4	10
WSW	.2	1.2	0	0
W	.3	1.3	0	0
WNW	.4	1.3	3	29
NW	.1	1.5	0	0
NNW	.5	1.4	7	18
N	.5	1.5	0	10

LOCATION 71

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.3	0	0
NE	.1	1.2	0	0
ENE	.3	1.3	0	0
E	.4	1.2	0	2
ESE	.4	1.2	0	0
SE	.3	1.1	0	0
SSE	.2	1.1	0	0
S	.4	1.1	0	1
SSW	.2	1.2	0	0
SW	.1	1.1	0	0
WSW	.4	1.2	1	3
W	.1	1.2	0	0
WNW	.1	1.3	0	0
NW	.1	1.2	0	0
NNW	.1	1.2	0	0
N	.3	1.2	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 70

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.7	5	3
NE	.6	1.5	7	2
ENE	.5	1.4	0	3
E	.4	1.3	0	0
ESE	.4	1.4	0	0
SE	.1	1.3	0	0
SSE	.1	1.3	0	0
S	.4	1.4	0	0
SSW	.2	1.3	0	0
SW	.1	1.3	0	0
WSW	.5	1.4	1	0
W	.1	1.4	0	0
WNW	.6	1.4	23	21
NW	.1	1.5	0	0
NNW	.7	1.7	32	19
N	1.0	2.0	34	52

LOCATION 71

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.3	0	0
NE	.4	1.4	2	3
ENE	.4	1.3	0	6
E	.3	1.3	0	0
ESE	.1	1.4	0	0
SE	.3	1.2	0	0
SSE	.1	1.4	0	0
S	.4	1.3	0	0
SSW	.3	1.3	0	0
SW	.1	1.3	0	0
WSW	.4	1.3	0	0
W	.1	1.3	0	0
WNW	.2	1.3	0	0
NW	.1	1.3	0	0
NNW	.5	1.4	7	24
N	.4	1.4	0	3

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-209

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 70

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.7	1	0
NE	.5	1.7	0	0
ENE	.1	1.5	0	0
E	.1	2.3	0	0
ESE	.3	1.3	0	0
SE	.1	1.9	0	0
SSE	.3	1.3	0	0
S	.3	1.6	0	0
SSW	.4	1.5	0	0
SW	.5	1.4	0	0
WSW	.3	1.3	0	0
W	.1	2.4	71	86
WNW	.5	1.4	1	0
NW	.6	1.9	2	1
NNW	.9	1.9	25	12
N	.8	1.9	0	2

LOCATION 71

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	1.4	0	0
NE	.4	1.4	0	0
ENE	.4	1.7	0	0
E	.5	1.6	0	0
ESE	.3	1.4	0	0
SE	.1	1.7	16	6
SSE	.1	1.4	0	0
S	.1	1.3	0	0
SSW	.1	1.5	0	0
SW	.4	1.4	0	0
WSW	.1	1.3	22	6
W	.1	1.3	0	0
WNW	.2	1.5	0	0
NW	.1	1.7	37	66
NNW	.4	1.5	28	25
N	.3	1.4	0	0

LOCATION 72

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.6	1	1
NE	.8	2.2	3	1
ENE	.6	2.0	0	1
E	.8	2.1	0	0
ESE	1.2	3.0	9	4
SE	1.0	2.6	0	0
SSE	.5	2.2	0	0
S	.6	1.8	0	0
SSW	.5	1.7	0	0
SW	1.2	2.4	19	7
WSW	1.4	2.8	27	7
W	1.1	2.5	1	9
WNW	1.3	2.6	33	60
NW	1.1	2.3	4	4
NNW	.9	2.0	2	0
N	1.2	2.7	1	6

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 70

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.5	3	2
NE	.1	1.3	0	0
ENE	.5	1.3	0	3
E	.5	1.3	0	0
ESE	.6	1.3	0	0
SE	.4	1.2	0	0
SSE	.2	1.1	0	0
S	.4	1.2	0	0
SSW	.5	1.2	0	0
SW	.5	1.3	1	0
WSW	.2	1.2	0	0
W	.3	1.3	0	1
WNW	.4	1.3	22	22
NW	.1	1.5	19	20
NNW	.5	1.4	48	41
N	.5	1.5	4	10

LOCATION 71

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.3	0	0
NE	.1	1.2	0	0
ENE	.3	1.3	1	16
E	.4	1.2	0	1
ESE	.4	1.2	0	0
SE	.3	1.1	0	0
SSE	.2	1.1	0	0
S	.4	1.1	1	8
SSW	.2	1.2	0	2
SW	.1	1.1	0	0
WSW	.4	1.2	1	1
W	.1	1.2	0	19
WNW	.1	1.3	11	51
NW	.1	1.2	0	0
NNW	.1	1.2	0	0
N	.3	1.2	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 70

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.7	0	1
NE	.6	1.5	1	1
ENE	.5	1.4	0	0
E	.4	1.3	0	0
ESE	.4	1.4	0	0
SE	.1	1.3	60	29
SSE	.1	1.3	0	0
S	.4	1.4	0	0
SSW	.2	1.3	0	0
SW	.1	1.3	34	44
WSW	.5	1.4	0	0
W	.1	1.4	0	0
WNW	.6	1.4	0	0
NW	.1	1.5	0	0
NNW	.7	1.7	5	8
N	1.0	2.0	1	17

LOCATION 71

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.3	47	43
NE	.4	1.4	2	0
ENE	.4	1.3	0	1
E	.3	1.3	0	0
ESE	.1	1.4	0	0
SE	.3	1.2	0	0
SSE	.1	1.4	4	3
S	.4	1.3	0	0
SSW	.3	1.3	0	0
SW	.1	1.3	0	0
WSW	.4	1.3	5	0
W	.1	1.3	0	0
WNW	.2	1.3	0	0
NW	.1	1.3	0	0
NNW	.5	1.4	38	35
N	.4	1.4	5	16

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-210

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 73

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.4	0	0
NE	.8	2.2	1	0
ENE	.8	2.2	0	1
E	1.0	2.7	0	1
ESE	2.0	3.8	86	67
SE	1.5	3.2	1	1
SSE	1.1	2.8	0	0
S	1.2	3.1	1	3
SSW	.9	2.4	0	0
SW	.4	1.6	0	0
WSW	.5	1.7	0	0
W	.8	1.8	0	0
WNW	.5	1.7	0	0
NW	.8	1.7	0	0
NNW	1.0	2.2	5	2
N	1.5	2.9	6	26

LOCATION 74

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.6	0	0
NE	1.8	3.4	33	25
ENE	1.3	2.8	3	13
E	.7	2.7	0	0
ESE	1.7	3.8	40	25
SE	1.6	3.7	2	2
SSE	.9	2.9	0	0
S	1.1	3.1	0	1
SSW	1.0	2.6	0	0
SW	.5	1.6	0	0
WSW	.5	1.8	0	0
W	.7	2.1	0	0
WNW	1.0	2.1	7	8
NW	1.2	2.2	14	25
NNW	.7	2.1	1	0
N	.8	2.1	0	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.1	0	0
NE	1.3	2.5	2	0
ENE	1.4	2.7	0	3
E	1.5	2.7	0	0
ESE	1.8	3.2	6	2
SE	1.5	3.1	0	0
SSE	1.1	2.3	0	0
S	1.0	2.3	0	0
SSW	.8	2.2	0	0
SW	1.6	3.0	13	5
WSW	1.9	3.3	28	7
W	1.8	3.1	7	25
WNW	1.7	3.3	28	46
NW	1.5	3.0	6	7
NNW	1.6	2.9	10	4
N	1.0	2.4	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-211
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 73

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.4	0	0
NE	.8	2.2	3	1
ENE	.8	2.2	0	3
E	1.0	2.7	0	3
ESE	2.0	3.8	79	57
SE	1.5	3.2	2	2
SSE	1.1	2.8	0	0
S	1.2	3.1	5	8
SSW	.9	2.4	0	0
SW	.4	1.6	0	0
WSW	.5	1.7	0	0
W	.8	1.8	0	0
WNW	.5	1.7	0	0
NW	.8	1.7	0	0
NNW	1.0	2.2	5	2
N	1.5	2.9	5	21

LOCATION 74

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.6	0	0
NE	1.8	3.4	27	21
ENE	1.3	2.8	4	16
E	.7	2.7	0	0
ESE	1.7	3.8	51	36
SE	1.6	3.7	3	3
SSE	.9	2.9	0	0
S	1.1	3.1	4	7
SSW	1.0	2.6	0	1
SW	.5	1.6	0	0
WSW	.5	1.8	0	0
W	.7	2.1	0	0
WNW	1.0	2.1	6	7
NW	1.2	2.2	4	8
NNW	.7	2.1	0	0
N	.8	2.1	0	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.1	0	0
NE	1.3	2.5	2	0
ENE	1.4	2.7	0	3
E	1.5	2.7	0	0
ESE	1.8	3.2	4	1
SE	1.5	3.1	0	0
SSE	1.1	2.3	0	0
S	1.0	2.3	0	0
SSW	.8	2.2	0	0
SW	1.6	3.0	16	6
WSW	1.9	3.3	22	5
W	1.8	3.1	4	17
WNW	1.7	3.3	30	50
NW	1.5	3.0	10	13
NNW	1.6	2.9	10	4
N	1.0	2.4	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-212
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 76

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	1.8	0	0
NE	.6	1.7	3	1
ENE	.7	2.1	0	7
E	.9	2.5	0	6
ESE	1.3	3.1	85	66
SE	1.1	3.1	4	3
SSE	.7	2.6	0	0
S	.5	2.0	0	0
SSW	.6	2.1	0	0
SW	.4	1.6	0	0
WSW	.6	1.5	1	0
W	.7	1.9	1	16
WNW	.5	1.5	1	0
NW	.5	1.7	0	0
NNW	.5	1.8	1	0
N	.4	1.8	0	0

LOCATION 77

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.0	12	13
NE	.8	2.1	18	12
ENE	.3	1.9	0	0
E	.7	2.1	0	3
ESE	.6	2.1	2	1
SE	.6	2.4	0	0
SSE	.7	2.5	0	0
S	1.0	2.6	43	48
SSW	.5	2.3	0	0
SW	.5	1.7	1	0
WSW	.5	1.5	1	0
W	.5	1.6	0	1
WNW	.4	1.6	0	0
NW	.4	1.8	0	0
NNW	.7	1.7	22	20
N	.6	1.8	0	2

LOCATION 78

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.2	1.7	0	0
NE	.5	2.3	1	0
ENE	.6	2.4	0	2
E	.7	1.9	0	0
ESE	.9	2.7	6	3
SE	.8	2.9	0	0
SSE	1.0	2.9	1	1
S	1.4	3.2	80	87
SSW	1.1	2.7	13	7
SW	.4	1.5	0	0
WSW	.3	1.4	0	0
W	.4	1.6	0	0
WNW	.6	2.1	1	0
NW	.5	1.8	0	0
NNW	.3	1.8	0	0
N	.6	1.7	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.3	1.3	0	0
NE	.4	1.3	1	3
ENE	.1	1.2	0	0
E	.1	1.3	0	0
ESE	.3	1.2	0	0
SE	.3	1.3	0	0
SSE	.4	1.1	0	0
S	.3	1.2	0	0
SSW	.1	1.2	0	0
SW	.1	1.2	0	0
WSW	.4	1.2	1	2
W	.1	1.2	0	0
WNW	.1	1.3	0	0
NW	.5	1.3	1	27
NNW	.4	1.3	1	2
N	.5	1.3	0	7

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.2	1.3	0	0
NE	.4	1.4	2	3
ENE	.1	1.3	0	0
E	.3	1.4	0	0
ESE	.3	1.4	0	0
SE	.3	1.3	0	0
SSE	.4	1.3	0	0
S	.1	1.4	0	0
SSW	.1	1.2	0	0
SW	.3	1.3	0	0
WSW	.1	1.2	0	0
W	.1	1.3	0	0
WNW	.1	1.2	0	0
NW	.2	1.3	0	0
NNW	.1	1.3	0	0
N	.5	1.4	0	7

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-213

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 76

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	1.8	0	0
NE	.6	1.7	3	1
ENE	.7	2.1	1	10
E	.9	2.5	1	10
ESE	1.3	3.1	84	66
SE	1.1	3.1	7	5
SSE	.7	2.6	1	1
S	.5	2.0	0	1
SSW	.6	2.1	0	1
SW	.4	1.6	0	0
WSW	.6	1.5	1	0
W	.7	1.9	0	5
WNW	.5	1.5	0	0
NW	.5	1.7	0	0
NNW	.5	1.8	2	0
N	.4	1.8	0	0

LOCATION 77

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.0	2	3
NE	.8	2.1	17	11
ENE	.3	1.9	0	2
E	.7	2.1	0	3
ESE	.6	2.1	8	4
SE	.6	2.4	1	1
SSE	.7	2.5	2	2
S	1.0	2.6	58	63
SSW	.5	2.3	3	3
SW	.5	1.7	0	0
WSW	.5	1.5	0	0
W	.5	1.6	0	0
WNW	.4	1.6	3	2
NW	.4	1.8	0	0
NNW	.7	1.7	5	2
N	.6	1.8	0	2

LOCATION 78

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.2	1.7	0	0
NE	.5	2.3	4	2
ENE	.6	2.4	0	4
E	.7	1.9	0	0
ESE	.9	2.7	15	10
SE	.8	2.9	0	1
SSE	1.0	2.9	2	2
S	1.4	3.2	61	70
SSW	1.1	2.7	14	8
SW	.4	1.5	0	0
WSW	.3	1.4	0	0
W	.4	1.6	0	0
WNW	.6	2.1	4	4
NW	.5	1.8	0	0
NNW	.3	1.8	0	0
N	.6	1.7	0	0

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.3	1.3	1	3
NE	.4	1.3	11	8
ENE	.1	1.2	0	0
E	.1	1.3	0	0
ESE	.3	1.2	2	1
SE	.3	1.3	0	0
SSE	.4	1.1	0	0
S	.3	1.2	0	0
SSW	.1	1.2	0	0
SW	.1	1.2	32	22
WSW	.4	1.2	33	19
W	.1	1.2	2	24
WNW	.1	1.3	0	0
NW	.5	1.3	1	3
NNW	.4	1.3	1	0
N	.5	1.3	3	17

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.2	1.3	0	0
NE	.4	1.4	12	11
ENE	.1	1.3	0	0
E	.3	1.4	0	0
ESE	.3	1.4	5	7
SE	.3	1.3	0	0
SSE	.4	1.3	0	1
S	.1	1.4	0	0
SSW	.1	1.2	0	0
SW	.3	1.3	47	42
WSW	.1	1.2	0	0
W	.1	1.3	1	23
WNW	.1	1.2	3	9
NW	.2	1.3	0	0
NNW	.1	1.3	0	0
N	.5	1.4	0	2

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-214

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.1	3.3	11	9
NE	1.7	3.0	16	8
ENE	1.5	3.0	1	7
E	.9	2.4	0	0
ESE	1.6	3.3	6	2
SE	1.7	3.4	0	0
SSE	1.6	3.2	1	0
S	1.6	3.2	3	2
SSW	1.3	2.9	0	0
SW	.7	1.9	0	0
WSW	.5	1.6	0	0
W	.5	1.6	0	0
WNW	1.0	2.0	0	0
NW	1.1	2.3	1	0
NNW	1.7	2.6	36	28
N	2.2	3.3	24	42

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-215
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN PRE-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.1	3.3	9	8
NE	1.7	3.0	17	9
ENE	1.5	3.0	4	13
E	.9	2.4	0	0
ESE	1.6	3.3	15	6
SE	1.7	3.4	1	1
SSE	1.6	3.2	1	1
S	1.6	3.2	10	10
SSW	1.3	2.9	1	2
SW	.7	1.9	0	0
WSW	.5	1.6	0	0
W	.5	1.6	0	0
WNW	1.0	2.0	1	0
NW	1.1	2.3	2	2
NNW	1.7	2.6	24	17
N	2.2	3.3	14	32

1995 INTERIM-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

2000 FULL-BUILD PRE-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-216
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	2.0	0
NE	.8	2.0	0
ENE	.9	2.2	0
E	1.5	2.9	1
ESE	1.8	2.9	2
SE	1.4	2.8	0
SSE	1.0	2.6	0
S	.8	2.7	0
SSW	.9	2.2	0
SW	1.4	3.2	4
WSW	2.6	4.2	57
W	1.7	3.4	16
WNW	1.5	3.0	11
NW	1.5	2.8	9
NNW	.4	1.7	0
N	1.1	2.2	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.9	1
NE	1.4	2.6	18
ENE	.8	2.5	1
E	1.0	2.2	1
ESE	1.6	2.8	26
SE	1.0	2.4	0
SSE	.6	2.1	0
S	.1	3.3	0
SSW	.7	2.6	0
SW	1.1	2.6	18
WSW	1.2	3.2	8
W	1.1	3.2	15
WNW	.9	2.7	6
NW	.8	2.4	4
NNW	.9	2.3	3
N	.8	2.4	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.8	0
NE	.5	1.8	0
ENE	.3	1.7	0
E	.8	2.2	0
ESE	1.2	2.7	0
SE	.9	1.9	0
SSE	.6	1.8	0
S	.5	1.9	0
SSW	.5	2.3	0
SW	.8	2.2	0
WSW	2.3	3.7	61
W	1.4	2.9	10
WNW	1.3	2.7	11
NW	1.4	2.6	16
NNW	.7	1.9	0
N	1.4	3.2	1

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.2	0
NE	1.1	2.6	0
ENE	1.4	2.9	2
E	1.6	3.0	2
ESE	2.1	3.2	14
SE	1.6	2.8	0
SSE	1.3	2.7	0
S	1.0	2.6	0
SSW	.9	2.4	0
SW	1.3	3.4	2
WSW	2.4	4.1	44
W	1.6	3.4	10
WNW	1.5	3.0	14
NW	1.5	2.8	13
NNW	.7	2.1	0
N	1.0	2.3	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.7	0
NE	1.6	3.1	26
ENE	1.3	2.7	11
E	.9	2.3	0
ESE	1.6	2.7	18
SE	1.1	2.2	0
SSE	.8	2.1	0
S	.5	1.8	0
SSW	.6	2.5	0
SW	1.2	3.2	14
WSW	1.2	3.1	5
W	1.2	3.4	17
WNW	.9	2.9	3
NW	.9	2.9	4
NNW	.9	2.6	1
N	.8	2.5	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.7	0
NE	.6	2.3	0
ENE	.7	2.1	0
E	.7	2.0	0
ESE	1.2	2.6	0
SE	1.0	2.1	0
SSE	.8	2.0	0
S	.7	2.2	0
SSW	.7	2.5	0
SW	.8	2.4	0
WSW	2.6	4.0	55
W	1.6	3.3	10
WNW	1.5	2.9	14
NW	1.6	2.9	20
NNW	.8	2.4	0
N	1.0	2.8	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.5	0
NE	.8	2.1	0
ENE	.6	1.8	0
E	.6	1.8	0
ESE	.8	2.0	0
SE	.9	2.0	0
SSE	1.1	2.2	0
S	1.1	2.6	0
SSW	1.4	2.9	0
SW	1.2	2.9	1
WSW	2.5	4.3	38
W	1.7	3.4	11
WNW	1.7	3.0	22
NW	1.8	3.0	26
NNW	1.3	3.3	2
N	1.3	3.1	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-217

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	2.0	0
NE	.8	2.0	0
ENE	.9	2.2	0
E	1.5	2.9	1
ESE	1.8	2.9	1
SE	1.4	2.8	0
SSE	1.0	2.6	0
S	.8	2.7	0
SSW	.9	2.2	0
SW	1.4	3.2	10
WSW	2.6	4.2	39
W	1.7	3.4	22
WNW	1.5	3.0	16
NW	1.5	2.8	12
NNW	.4	1.7	0
N	1.1	2.2	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.9	1
NE	1.4	2.6	7
ENE	.8	2.5	2
E	1.0	2.2	0
ESE	1.6	2.8	3
SE	1.0	2.4	0
SSE	.6	2.1	0
S	.1	3.3	0
SSW	.7	2.6	0
SW	1.1	2.9	24
WSW	1.2	3.2	7
W	1.1	3.2	36
WNW	.9	2.7	11
NW	.8	2.4	6
NNW	.9	2.3	3
N	.8	2.4	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.8	0
NE	.5	1.8	0
ENE	.3	1.7	0
E	.8	2.2	0
ESE	1.2	2.7	0
SE	.9	1.9	0
SSE	.6	1.8	0
S	.5	1.9	0
SSW	.5	2.3	0
SW	.8	2.2	1
WSW	2.3	3.7	42
W	1.4	2.9	16
WNW	1.3	2.7	18
NW	1.4	2.6	19
NNW	.7	1.9	0
N	1.4	3.2	4

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.2	0
NE	1.1	2.6	1
ENE	1.4	2.9	3
E	1.6	3.0	1
ESE	2.1	3.2	4
SE	1.6	2.8	0
SSE	1.3	2.7	0
S	1.0	2.6	0
SSW	.9	2.4	0
SW	1.3	3.4	12
WSW	2.4	4.1	31
W	1.6	3.4	19
WNW	1.5	3.0	17
NW	1.5	2.8	13
NNW	.7	2.1	0
N	1.0	2.3	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.7	0
NE	1.6	3.1	13
ENE	1.3	2.7	6
E	.9	2.3	0
ESE	1.6	2.7	2
SE	1.1	2.2	0
SSE	.8	2.1	0
S	.5	1.8	0
SSW	.6	2.5	0
SW	1.2	3.2	23
WSW	1.2	3.1	5
W	1.2	3.4	29
WNW	.9	2.9	11
NW	.9	2.9	8
NNW	.9	2.6	3
N	.8	2.5	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.7	0
NE	.6	2.3	0
ENE	.7	2.1	0
E	.7	2.0	0
ESE	1.2	2.6	0
SE	1.0	2.1	0
SSE	.8	2.0	0
S	.7	2.2	0
SSW	.7	2.5	0
SW	.8	2.4	0
WSW	2.6	4.0	40
W	1.6	3.3	18
WNW	1.5	2.9	18
NW	1.6	2.9	23
NNW	.8	2.4	0
N	1.0	2.8	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.5	0
NE	.8	2.1	0
ENE	.6	1.8	0
E	.6	1.8	0
ESE	.8	2.0	0
SE	.9	2.0	0
SSE	1.1	2.2	0
S	1.1	2.6	0
SSW	1.4	2.9	0
SW	1.2	2.9	4
WSW	2.5	4.3	29
W	1.7	3.4	19
WNW	1.7	3.0	16
NW	1.8	3.0	23
NNW	1.3	3.3	8
N	1.3	3.1	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-218

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	1
NE	.7	1.7	1
ENE	.4	1.5	0
E	.7	1.9	0
ESE	.6	1.6	0
SE	.3	1.4	0
SSE	.2	1.5	0
S	.5	1.7	0
SSW	.4	1.7	0
SW	.9	2.5	11
WSW	1.2	2.5	22
W	1.0	2.5	16
WNW	.8	2.4	10
NW	.9	2.6	22
NNW	1.0	2.3	18
N	.7	2.2	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	0
NE	1.2	2.4	0
ENE	.8	2.1	0
E	.4	1.7	0
ESE	.8	2.0	0
SE	.3	1.9	0
SSE	.1	2.3	0
S	.9	2.0	0
SSW	1.5	2.9	1
SW	1.3	2.5	4
WSW	1.9	3.5	17
W	1.5	3.0	8
WNW	1.7	3.1	50
NW	1.5	2.8	19
NNW	1.1	2.6	1
N	1.4	3.1	1

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.0	0
NE	.8	2.0	0
ENE	.7	1.9	0
E	1.1	2.1	1
ESE	1.5	2.7	22
SE	1.0	2.3	0
SSE	.7	1.9	0
S	.5	2.0	0
SSW	.6	2.0	0
SW	.4	1.7	0
WSW	.7	2.2	0
W	.6	2.0	0
WNW	.8	2.4	1
NW	.6	2.3	0
NNW	1.5	3.2	75
N	.8	2.1	0

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.9	0
NE	.9	2.2	0
ENE	.8	2.1	0
E	.8	1.9	0
ESE	.9	2.4	0
SE	1.5	2.6	1
SSE	1.3	2.3	0
S	.7	1.9	0
SSW	.9	2.0	0
SW	.5	1.7	0
WSW	.5	1.7	0
W	.6	1.8	0
WNW	1.0	2.3	4
NW	1.0	2.5	9
NNW	1.7	3.1	82
N	1.2	2.1	2

TABLE E-219

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	0
NE	.7	1.7	0
ENE	.4	1.5	0
E	.7	1.9	0
ESE	.6	1.6	0
SE	.3	1.4	0
SSE	.2	1.5	0
S	.5	1.7	0
SSW	.4	1.7	0
SW	.9	2.5	13
WSW	1.2	2.5	7
W	1.0	2.5	16
WNW	.8	2.4	17
NW	.9	2.6	33
NNW	1.0	2.3	12
N	.7	2.2	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	0
NE	1.2	2.4	1
ENE	.8	2.1	0
E	.4	1.7	0
ESE	.8	2.0	0
SE	.3	1.9	0
SSE	.1	2.3	0
S	.9	2.0	0
SSW	1.5	2.9	1
SW	1.3	2.5	4
WSW	1.9	3.5	16
W	1.5	3.0	15
WNW	1.7	3.1	35
NW	1.5	2.8	21
NNW	1.1	2.6	4
N	1.4	3.1	2

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.0	0
NE	.8	2.0	1
ENE	.7	1.9	0
E	1.1	2.1	0
ESE	1.5	2.7	8
SE	1.0	2.3	0
SSE	.7	1.9	0
S	.5	2.0	0
SSW	.6	2.0	0
SW	.4	1.7	0
WSW	.7	2.2	0
W	.6	2.0	0
WNW	.8	2.4	14
NW	.6	2.3	5
NNW	1.5	3.2	70
N	.8	2.1	0

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.9	0
NE	.9	2.2	1
ENE	.8	2.1	0
E	.8	1.9	0
ESE	.9	2.4	0
SE	1.5	2.6	0
SSE	1.3	2.3	0
S	.7	1.9	0
SSW	.9	2.0	0
SW	.5	1.7	0
WSW	.5	1.7	0
W	.6	1.8	0
WNW	1.0	2.3	8
NW	1.0	2.5	24
NNW	1.7	3.1	65
N	1.2	2.1	1

TABLE E-220

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	1.6	3.1	14
ENE	1.4	2.5	9
E	1.4	2.8	3
ESE	2.0	3.5	40
SE	1.5	3.0	0
SSE	1.0	2.6	0
S	.6	1.9	0
SSW	.8	1.9	0
SW	.9	2.2	1
WSW	1.1	2.3	1
W	.8	2.1	0
WNW	.8	1.8	0
NW	1.2	2.3	14
NNW	1.3	2.3	18
N	1.0	2.2	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	1.1	2.2	23
ENE	.9	2.4	12
E	.6	2.0	0
ESE	.9	1.9	5
SE	.9	2.2	1
SSE	1.0	2.5	1
S	.9	2.2	7
SSW	.6	2.0	0
SW	.8	2.2	12
WSW	.6	2.1	0
W	.7	2.2	4
WNW	.7	2.2	7
NW	.8	1.8	19
NNW	.7	1.8	6
N	.3	1.8	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.7	2
NE	1.3	2.8	11
ENE	1.2	2.5	7
E	1.3	2.5	6
ESE	1.4	2.4	10
SE	1.1	2.4	0
SSE	.9	2.1	0
S	.7	1.9	0
SSW	1.0	2.2	0
SW	.6	1.6	0
WSW	.8	1.8	0
W	.9	2.2	1
WNW	1.0	2.7	15
NW	1.2	2.7	38
NNW	1.1	2.1	10
N	1.0	2.2	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 14

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.6	1
NE	1.1	2.8	6
ENE	.9	2.3	1
E	.9	2.4	0
ESE	1.6	2.7	32
SE	1.5	2.7	3
SSE	1.5	2.8	2
S	.9	2.3	0
SSW	1.0	2.3	0
SW	.5	1.8	0
WSW	.7	1.8	0
W	.8	2.1	0
WNW	1.1	2.3	37
NW	.8	2.2	2
NNW	1.0	2.2	13
N	1.0	2.1	1

TABLE E-221

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	1.6	3.1	18
ENE	1.4	2.5	6
E	1.4	2.8	4
ESE	2.0	3.5	40
SE	1.5	3.0	1
SSE	1.0	2.6	0
S	.6	1.9	0
SSW	.8	1.9	0
SW	.9	2.2	3
WSW	1.1	2.3	2
W	.8	2.1	1
WNW	.8	1.8	0
NW	1.2	2.3	11
NNW	1.3	2.3	13
N	1.0	2.2	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	1
NE	1.1	2.2	11
ENE	.9	2.4	14
E	.6	2.0	0
ESE	.9	1.9	1
SE	.9	2.2	0
SSE	1.0	2.5	1
S	.9	2.2	6
SSW	.6	2.0	0
SW	.8	2.2	22
WSW	.6	2.1	2
W	.7	2.2	14
WNW	.7	2.2	21
NW	.8	1.8	3
NNW	.7	1.8	4
N	.3	1.8	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.7	2
NE	1.3	2.8	10
ENE	1.2	2.5	6
E	1.3	2.5	3
ESE	1.4	2.4	2
SE	1.1	2.4	0
SSE	.9	2.1	0
S	.7	1.9	0
SSW	1.0	2.2	0
SW	.6	1.6	0
WSW	.8	1.8	0
W	.9	2.2	2
WNW	1.0	2.7	24
NW	1.2	2.7	43
NNW	1.1	2.1	8
N	1.0	2.2	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 14

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.6	2
NE	1.1	2.8	13
ENE	.9	2.3	5
E	.9	2.4	2
ESE	1.6	2.7	20
SE	1.5	2.7	1
SSE	1.5	2.8	1
S	.9	2.3	2
SSW	1.0	2.3	1
SW	.5	1.8	0
WSW	.7	1.8	0
W	.8	2.1	1
WNW	1.1	2.3	33
NW	.8	2.2	9
NNW	1.0	2.2	9
N	1.0	2.1	1

TABLE E-222

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.5	2
NE	1.7	3.4	34
ENE	1.1	2.6	6
E	1.2	2.7	3
ESE	1.1	2.5	1
SE	1.2	2.8	0
SSE	.8	2.1	0
S	.9	2.4	0
SSW	1.0	2.4	0
SW	.3	1.7	0
WSW	.9	2.0	0
W	.8	2.3	0
WNW	1.2	2.4	31
NW	.8	2.4	3
NNW	1.1	2.6	11
N	1.4	3.5	10

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.4	0
NE	1.5	3.0	7
ENE	1.7	2.6	13
E	2.0	3.3	17
ESE	2.4	3.8	62
SE	1.8	3.2	1
SSE	1.1	2.4	0
S	.6	1.8	0
SSW	.7	1.9	0
SW	.6	1.6	0
WSW	.8	1.8	0
W	.8	1.9	0
WNW	.8	2.0	0
NW	.9	2.0	1
NNW	.9	2.0	0
N	1.0	2.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.9	0
NE	2.0	4.0	26
ENE	2.1	3.5	28
E	2.0	3.5	16
ESE	2.0	3.5	18
SE	1.5	3.0	0
SSE	1.0	2.8	0
S	.8	2.6	0
SSW	1.1	2.9	0
SW	.6	1.9	0
WSW	1.3	2.7	1
W	1.0	2.5	0
WNW	1.1	2.2	2
NW	1.1	2.6	3
NNW	1.2	3.0	4
N	1.4	3.5	1

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.4	0
NE	1.2	2.3	10
ENE	1.3	2.3	16
E	1.5	2.8	20
ESE	1.7	2.8	49
SE	1.2	2.4	0
SSE	.8	2.0	0
S	.1	1.6	0
SSW	.6	1.9	0
SW	.1	1.8	0
WSW	.1	1.9	0
W	.5	1.8	0
WNW	.5	2.0	0
NW	.8	2.3	2
NNW	.9	2.2	4
N	.9	1.8	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	3.0	0
NE	2.3	4.1	32
ENE	2.3	3.4	28
E	2.2	3.6	15
ESE	2.2	3.4	18
SE	1.7	3.2	0
SSE	1.2	2.8	0
S	.7	2.6	0
SSW	1.1	2.8	0
SW	.6	2.1	0
WSW	1.1	2.9	0
W	1.0	2.5	0
WNW	1.0	2.4	0
NW	1.2	2.8	3
NNW	1.3	3.2	4
N	1.2	2.9	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.5	0
NE	1.5	3.1	19
ENE	1.6	2.7	22
E	1.6	3.0	14
ESE	1.8	3.3	38
SE	1.1	2.7	0
SSE	1.1	2.4	0
S	.8	2.2	0
SSW	.9	2.3	0
SW	.5	1.6	0
WSW	.3	1.7	0
W	.4	1.7	0
WNW	.8	1.9	0
NW	.8	1.9	1
NNW	1.0	2.1	6
N	1.0	2.0	0

TABLE E-223

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.5	1
NE	1.7	3.4	31
ENE	1.1	2.6	7
E	1.2	2.7	3
ESE	1.1	2.5	1
SE	1.2	2.8	0
SSE	.8	2.1	0
S	.9	2.4	0
SSW	1.0	2.4	0
SW	.3	1.7	0
WSW	.9	2.0	0
W	.8	2.3	2
WNW	1.2	2.4	17
NW	.8	2.4	7
NNW	1.1	2.6	16
N	1.4	3.5	15

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.4	0
NE	1.5	3.0	14
ENE	1.7	2.8	13
E	2.0	3.3	17
ESE	2.4	3.8	51
SE	1.8	3.2	2
SSE	1.1	2.4	0
S	.6	1.8	0
SSW	.7	1.9	0
SW	.6	1.6	0
WSW	.8	1.8	0
W	.8	1.9	0
WNW	.8	2.0	0
NW	.9	2.0	1
NNW	.9	2.0	1
N	1.0	2.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.9	0
NE	2.0	4.0	30
ENE	2.1	3.5	20
E	2.0	3.5	12
ESE	2.0	3.5	12
SE	1.5	3.0	0
SSE	1.0	2.8	0
S	.8	2.6	0
SSW	1.1	2.9	0
SW	.6	1.9	0
WSW	1.2	2.7	2
W	1.0	2.5	2
WNW	1.1	2.2	1
NW	1.1	2.6	7
NNW	1.2	3.0	9
N	1.4	3.5	3

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.4	1
NE	1.2	2.3	13
ENE	1.3	2.3	13
E	1.5	2.8	16
ESE	1.7	2.8	35
SE	1.2	2.4	1
SSE	.8	2.0	0
S	.1	1.6	0
SSW	.6	1.9	0
SW	.1	1.8	0
WSW	.1	1.9	0
W	.5	1.8	0
WNW	.5	2.0	1
NW	.8	2.3	8
NNW	.9	2.2	13
N	.9	1.8	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	3.0	0
NE	2.3	4.1	33
ENE	2.3	3.4	20
E	2.2	3.6	11
ESE	2.2	3.4	11
SE	1.7	3.2	0
SSE	1.2	2.8	0
S	.7	2.6	0
SSW	1.1	2.8	0
SW	.6	2.1	0
WSW	1.1	2.9	1
W	1.0	2.5	1
WNW	1.0	2.4	1
NW	1.2	2.8	8
NNW	1.3	3.2	13
N	1.2	2.9	1

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.5	0
NE	1.5	3.1	25
ENE	1.6	2.7	17
E	1.6	3.0	13
ESE	1.8	3.3	32
SE	1.1	2.7	0
SSE	1.1	2.4	0
S	.8	2.2	0
SSW	.9	2.3	0
SW	.5	1.6	0
WSW	.3	1.7	0
W	.4	1.7	0
WNW	.8	1.9	2
NW	.8	1.9	2
NNW	1.0	2.1	7
N	1.0	2.0	1

TABLE E-224

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	3.1	0
NE	1.7	3.3	10
ENE	2.2	3.5	29
E	2.1	3.5	16
ESE	2.2	3.6	33
SE	1.6	3.2	0
SSE	1.2	2.7	0
S	.8	2.8	0
SSW	.9	2.5	0
SW	.6	2.0	0
WSW	1.1	2.8	0
W	1.1	2.7	0
WNW	1.1	2.4	1
NW	1.2	2.5	4
NNW	1.3	3.0	5
N	.9	2.5	0

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.4	0
NE	1.0	2.5	5
ENE	1.4	2.6	19
E	1.5	2.7	20
ESE	1.7	3.1	48
SE	1.0	2.5	0
SSE	.8	2.1	0
S	.5	2.1	0
SSW	1.0	2.1	0
SW	.5	1.3	0
WSW	.5	1.9	0
W	.5	1.6	0
WNW	.9	2.0	4
NW	.7	2.1	1
NNW	.9	2.1	4
N	.7	1.9	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	3.0	1
NE	2.0	3.5	24
ENE	2.1	3.4	28
E	1.9	3.2	12
ESE	2.0	3.4	18
SE	1.4	2.9	0
SSE	.9	2.6	0
S	.4	2.1	0
SSW	.7	2.3	0
SW	.5	2.0	0
WSW	1.1	2.8	0
W	1.2	2.8	1
WNW	1.2	2.6	6
NW	1.1	2.6	4
NNW	1.3	3.0	6
N	.7	2.3	0

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.5	0
NE	1.5	3.1	25
ENE	1.6	2.8	32
E	1.5	2.9	16
ESE	1.4	2.8	14
SE	.7	2.5	0
SSE	.8	2.2	0
S	.6	2.2	0
SSW	1.3	2.7	6
SW	.7	1.5	0
WSW	.7	1.8	0
W	.7	2.0	0
WNW	.9	1.9	4
NW	.6	1.7	0
NNW	.8	2.0	1
N	.1	2.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	3.2	0
NE	1.0	3.2	1
ENE	1.2	2.5	7
E	1.4	2.5	7
ESE	1.7	3.0	31
SE	1.3	2.9	0
SSE	1.1	2.7	0
S	.7	2.4	0
SSW	.9	2.2	0
SW	.5	1.4	0
WSW	.9	2.2	0
W	1.2	2.4	13
WNW	1.2	2.2	38
NW	.9	2.3	3
NNW	.7	2.2	0
N	.7	1.9	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.8	3
NE	.8	2.4	3
ENE	.8	2.1	3
E	1.1	2.2	7
ESE	1.3	2.6	31
SE	1.0	2.3	0
SSE	.9	2.2	0
S	.4	2.0	0
SSW	1.0	2.2	2
SW	.6	1.4	0
WSW	.7	1.8	0
W	.8	1.9	3
WNW	1.0	2.6	45
NW	.6	1.8	0
NNW	.7	1.9	3
N	.8	1.9	0

TABLE E-225

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	3.1	1
NE	1.7	3.3	14
ENE	2.2	3.5	22
E	2.1	3.5	13
ESE	2.2	3.6	21
SE	1.6	3.2	0
SSE	1.2	2.7	0
S	.8	2.8	0
SSW	.9	2.5	0
SW	.6	2.0	0
WSW	1.1	2.8	1
W	1.1	2.7	4
WNW	1.1	2.4	3
NW	1.2	2.5	6
NNW	1.3	3.0	14
N	.9	2.5	0

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.4	0
NE	1.0	2.5	8
ENE	1.4	2.6	14
E	1.5	2.7	14
ESE	1.7	3.1	35
SE	1.0	2.5	0
SSE	.8	2.1	0
S	.5	2.1	0
SSW	1.0	2.1	1
SW	.5	1.3	0
WSW	.5	1.9	0
W	.5	1.6	0
WNW	.9	2.0	9
NW	.7	2.1	7
NNW	.9	2.1	11
N	.7	1.9	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	3.0	2
NE	2.0	3.5	22
ENE	2.1	3.4	19
E	1.9	3.2	7
ESE	2.0	3.4	9
SE	1.4	2.9	0
SSE	.9	2.6	0
S	.4	2.1	0
SSW	.7	2.3	0
SW	.5	2.0	0
WSW	1.1	2.8	1
W	1.2	2.8	5
WNW	1.2	2.6	9
NW	1.1	2.6	8
NNW	1.3	3.0	17
N	.7	2.3	0

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.5	1
NE	1.5	3.1	27
ENE	1.6	2.8	24
E	1.5	2.9	15
ESE	1.4	2.8	16
SE	.7	2.5	0
SSE	.8	2.2	0
S	.6	2.2	1
SSW	1.3	2.7	6
SW	.7	1.5	0
WSW	.7	1.8	0
W	.7	2.0	0
WNW	.9	1.9	6
NW	.6	1.7	1
NNW	.8	2.0	3
N	.1	2.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	3.2	4
NE	1.0	3.2	3
ENE	1.2	2.5	8
E	1.4	2.5	5
ESE	1.7	3.0	26
SE	1.3	2.9	1
SSE	1.1	2.7	0
S	.7	2.4	0
SSW	.9	2.2	0
SW	.5	1.4	0
WSW	.9	2.2	1
W	1.2	2.4	14
WNW	1.2	2.2	26
NW	.9	2.3	8
NNW	.7	2.2	4
N	.7	1.9	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.8	4
NE	.8	2.4	4
ENE	.8	2.1	4
E	1.1	2.2	5
ESE	1.3	2.6	21
SE	1.0	2.3	0
SSE	.9	2.2	0
S	.4	2.0	0
SSW	1.0	2.2	2
SW	.6	1.4	0
WSW	.7	1.8	0
W	.8	1.9	1
WNW	1.0	2.6	48
NW	.6	1.8	2
NNW	.7	1.9	7
N	.8	1.9	0

TABLE E-226

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	.6	1.7	0
ENE	.5	1.4	0
E	.6	1.8	0
ESE	.6	1.6	0
SE	.1	1.3	0
SSE	.6	1.3	0
S	.6	1.4	0
SSW	.6	1.8	0
SW	.8	2.5	3
WSW	1.0	2.2	7
W	.8	2.3	4
WNW	.9	2.2	13
NW	1.0	2.7	32
NNW	1.1	2.5	38
N	1.0	2.2	2

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	2
NE	.5	1.9	0
ENE	.6	2.4	2
E	.9	2.5	9
ESE	.8	2.0	2
SE	.1	1.5	0
SSE	.1	1.4	0
S	.4	1.6	0
SSW	.3	1.5	0
SW	.6	1.8	2
WSW	.1	1.7	0
W	.1	2.3	0
WNW	.5	1.8	0
NW	.7	2.0	20
NNW	.9	2.5	61
N	.6	2.1	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.4	4.0	26
NE	1.9	3.3	27
ENE	1.8	2.9	19
E	1.5	2.8	3
ESE	1.5	2.8	3
SE	1.0	2.5	0
SSE	1.1	2.7	0
S	.9	2.4	0
SSW	1.5	2.7	2
SW	.7	1.9	0
WSW	1.0	2.5	0
W	1.2	2.9	4
WNW	1.1	2.6	2
NW	1.2	2.9	8
NNW	1.2	3.0	4
N	1.2	2.9	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	3.1	10
NE	1.3	3.0	27
ENE	.9	2.6	5
E	.7	2.4	0
ESE	.7	2.2	0
SE	.3	1.8	0
SSE	.5	2.1	0
S	.5	1.7	0
SSW	.8	2.1	0
SW	.5	1.2	0
WSW	.4	2.0	0
W	.4	2.1	0
WNW	.8	2.4	11
NW	.9	2.3	13
NNW	1.0	2.8	22
N	1.2	3.2	12

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.0	3.7	8
NE	2.0	3.3	21
ENE	1.8	3.2	15
E	1.4	3.0	1
ESE	1.1	2.6	0
SE	1.2	3.0	0
SSE	1.3	3.1	0
S	.9	2.7	0
SSW	1.6	3.1	1
SW	.7	1.8	0
WSW	1.2	2.9	0
W	1.3	3.0	3
WNW	1.5	3.4	33
NW	1.3	2.8	8
NNW	1.4	3.0	9
N	1.0	2.9	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.4	4.4	27
NE	1.9	3.5	29
ENE	1.6	2.8	13
E	1.3	3.0	1
ESE	1.2	2.7	0
SE	1.3	2.6	0
SSE	1.3	2.7	0
S	1.1	2.4	0
SSW	1.7	2.7	7
SW	.8	1.8	0
WSW	.8	2.2	0
W	.9	2.8	0
WNW	.8	2.2	0
NW	1.0	2.3	2
NNW	1.3	2.8	14
N	1.6	3.1	6

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.8	3.6	8
NE	1.9	3.4	30
ENE	1.6	3.4	14
E	1.1	2.7	0
ESE	1.4	3.4	2
SE	1.3	3.1	0
SSE	1.5	3.0	1
S	1.1	2.7	0
SSW	1.8	3.1	11
SW	.7	1.7	0
WSW	.9	2.2	0
W	1.1	2.9	2
WNW	1.2	2.5	9
NW	1.2	2.4	16
NNW	1.1	2.3	6
N	1.0	2.3	0

TABLE E-227

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	.6	1.7	0
ENE	.5	1.4	0
E	.6	1.8	0
ESE	.6	1.6	0
SE	.1	1.3	0
SSE	.6	1.3	0
S	.6	1.4	0
SSW	.6	1.8	0
SW	.8	2.5	9
WSW	1.0	2.2	4
W	.8	2.3	7
WNW	.9	2.2	13
NW	1.0	2.7	38
NNW	1.1	2.5	27
N	1.0	2.2	1

LOCATION 22

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	2
NE	.5	1.9	2
ENE	.6	2.4	8
E	.9	2.5	8
ESE	.8	2.0	1
SE	.1	1.5	0
SSE	.1	1.4	0
S	.4	1.6	0
SSW	.3	1.5	0
SW	.6	1.8	0
WSW	.1	1.7	0
W	.1	2.3	12
WNW	.5	1.8	1
NW	.7	2.0	13
NNW	.9	2.5	52
N	.6	2.1	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.4	4.0	15
NE	1.9	3.3	15
ENE	1.8	2.9	9
E	1.5	2.8	1
ESE	1.5	2.8	1
SE	1.0	2.5	0
SSE	1.1	2.7	0
S	.9	2.4	0
SSW	1.5	2.7	1
SW	.7	1.9	0
WSW	1.0	2.5	0
W	1.2	2.9	12
WNW	1.1	2.6	9
NW	1.2	2.9	19
NNW	1.2	3.0	14
N	1.2	2.9	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	3.1	6
NE	1.3	3.0	19
ENE	.9	2.6	6
E	.7	2.4	1
ESE	.7	2.2	0
SE	.3	1.8	0
SSE	.5	2.1	0
S	.5	1.7	0
SSW	.8	2.1	0
SW	.5	1.2	0
WSW	.4	2.0	0
W	.4	2.1	0
WNW	.8	2.4	27
NW	.9	2.3	13
NNW	1.0	2.8	20
N	1.2	3.2	9

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.0	3.7	5
NE	2.0	3.3	12
ENE	1.8	3.2	9
E	1.4	3.0	1
ESE	1.1	2.6	0
SE	1.2	3.0	0
SSE	1.3	3.1	0
S	.9	2.7	0
SSW	1.6	3.1	1
SW	.7	1.8	0
WSW	1.2	2.9	1
W	1.3	3.0	7
WNW	1.5	3.4	44
NW	1.3	2.8	9
NNW	1.4	3.0	11
N	1.0	2.9	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 21

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.4	4.4	22
NE	1.9	3.5	23
ENE	1.6	2.8	10
E	1.3	3.0	3
ESE	1.2	2.7	1
SE	1.3	2.6	0
SSE	1.3	2.7	0
S	1.1	2.4	1
SSW	1.7	2.7	3
SW	.8	1.8	0
WSW	.8	2.2	0
W	.9	2.8	6
WNW	.8	2.2	1
NW	1.0	2.3	5
NNW	1.3	2.8	17
N	1.6	3.1	6

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 23

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.8	3.6	7
NE	1.9	3.4	22
ENE	1.6	3.4	13
E	1.1	2.7	1
ESE	1.4	3.4	7
SE	1.3	3.1	0
SSE	1.5	3.0	0
S	1.1	2.7	2
SSW	1.8	3.1	6
SW	.7	1.7	0
WSW	.9	2.2	0
W	1.1	2.9	7
WNW	1.2	2.5	17
NW	1.2	2.4	11
NNW	1.1	2.3	5
N	1.0	2.3	0

TABLE E-228

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.8	0
NE	1.5	3.2	9
ENE	1.8	3.3	23
E	1.7	3.1	11
ESE	1.6	3.3	8
SE	1.0	2.6	0
SSE	.1	2.5	0
S	.1	2.0	0
SSW	.9	2.4	0
SW	.6	1.8	0
WSW	1.4	2.9	5
W	1.5	3.0	34
WNW	1.2	2.7	10
NW	.8	2.0	0
NNW	.8	2.4	0
N	.1	1.8	0

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	1.1	3.0	10
ENE	1.5	2.9	32
E	1.4	2.8	16
ESE	1.4	2.9	28
SE	.6	2.4	0
SSE	.6	2.1	0
S	.5	2.2	0
SSW	1.0	2.6	1
SW	.6	1.6	0
WSW	.8	1.8	1
W	.8	2.1	2
WNW	.8	1.9	7
NW	.4	1.6	0
NNW	.7	2.0	1
N	.8	1.8	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.3	0
NE	.7	2.2	0
ENE	1.2	2.8	8
E	1.5	2.7	10
ESE	.8	2.2	0
SE	.6	2.1	0
SSE	.6	2.4	0
S	.6	2.6	0
SSW	1.3	2.8	3
SW	.9	1.8	1
WSW	1.3	2.9	10
W	1.4	2.6	50
WNW	1.1	2.1	16
NW	.7	1.9	0
NNW	.8	2.1	1
N	.5	1.8	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.1	1
NE	.8	2.3	3
ENE	.9	2.2	6
E	1.1	2.5	8
ESE	.5	2.2	0
SE	.1	2.0	0
SSE	.9	2.3	0
S	1.1	2.5	8
SSW	1.4	2.6	25
SW	.7	1.7	1
WSW	.8	1.9	0
W	.8	1.9	2
WNW	.9	1.9	33
NW	.6	1.9	0
NNW	.8	2.2	9
N	.9	1.8	2

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.9	0
NE	.9	2.8	1
ENE	1.7	3.4	33
E	1.0	2.5	1
ESE	.4	2.3	0
SE	.1	2.1	0
SSE	.5	2.1	0
S	1.0	2.7	1
SSW	1.8	3.4	29
SW	.8	1.9	0
WSW	1.3	2.9	10
W	1.2	2.8	23
WNW	.4	2.3	0
NW	.8	2.2	2
NNW	.6	2.1	0
N	.1	1.6	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.6	0
NE	.1	1.9	0
ENE	1.4	2.9	24
E	.9	2.4	1
ESE	.6	2.4	0
SE	.1	2.2	0
SSE	.8	2.7	0
S	1.3	2.9	19
SSW	1.8	3.1	54
SW	.7	1.8	1
WSW	.8	1.9	0
W	.7	1.8	0
WNW	.5	1.6	0
NW	.1	1.8	0
NNW	.7	1.8	1
N	.6	1.5	0

TABLE E-229

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.8	0
NE	1.5	3.2	14
ENE	1.8	3.3	17
E	1.7	3.1	7
ESE	1.6	3.3	7
SE	1.0	2.6	0
SSE	.1	2.5	0
S	.1	2.0	0
SSW	.9	2.4	0
SW	.6	1.8	0
WSW	1.4	2.9	5
W	1.5	3.0	29
WNW	1.2	2.7	19
NW	.8	2.0	1
NNW	.8	2.4	2
N	.1	1.8	0

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	1.1	3.0	20
ENE	1.5	2.9	25
E	1.4	2.8	15
ESE	1.4	2.9	23
SE	.6	2.4	0
SSE	.6	2.1	0
S	.5	2.2	0
SSW	1.0	2.6	3
SW	.6	1.6	0
WSW	.8	1.8	0
W	.8	2.1	3
WNW	.8	1.9	6
NW	.4	1.6	0
NNW	.7	2.0	2
N	.8	1.8	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.3	0
NE	.7	2.2	1
ENE	1.2	2.8	9
E	1.5	2.7	10
ESE	.8	2.2	1
SE	.6	2.1	0
SSE	.6	2.4	0
S	.6	2.6	1
SSW	1.3	2.8	6
SW	.9	1.8	0
WSW	1.3	2.9	11
W	1.4	2.6	40
WNW	1.1	2.1	18
NW	.7	1.9	1
NNW	.8	2.1	2
N	.5	1.8	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.1	1
NE	.8	2.3	3
ENE	.9	2.2	9
E	1.1	2.5	15
ESE	.5	2.2	1
SE	.1	2.0	0
SSE	.9	2.3	1
S	1.1	2.5	13
SSW	1.4	2.6	16
SW	.7	1.7	1
WSW	.8	1.9	1
W	.8	1.9	2
WNW	.9	1.8	16
NW	.6	1.9	4
NNW	.8	2.2	14
N	.9	1.8	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.9	0
NE	.9	2.8	6
ENE	1.7	3.4	30
E	1.0	2.5	1
ESE	.4	2.3	0
SE	.1	2.1	0
SSE	.5	2.1	0
S	1.0	2.7	3
SSW	1.8	3.4	16
SW	.8	1.9	1
WSW	1.3	2.9	9
W	1.2	2.8	29
WNW	.4	2.3	1
NW	.8	2.2	4
NNW	.6	2.1	1
N	.1	1.6	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.6	0
NE	.1	1.9	0
ENE	1.4	2.9	29
E	.9	2.4	3
ESE	.6	2.4	1
SE	.1	2.2	0
SSE	.8	2.7	1
S	1.3	2.9	30
SSW	1.8	3.1	31
SW	.7	1.8	3
WSW	.8	1.9	1
W	.7	1.8	0
WNW	.5	1.6	0
NW	.1	1.8	0
NNW	.7	1.8	2
N	.6	1.5	0

TABLE E-230

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.2	0
NE	1.0	2.2	1
ENE	.7	2.2	0
E	1.3	2.7	2
ESE	1.5	2.8	7
SE	1.5	2.7	0
SSE	.8	2.3	0
S	.9	2.5	0
SSW	.9	2.6	0
SW	1.1	3.1	5
WSW	1.4	3.1	9
W	1.3	2.8	13
WNW	1.3	2.7	25
NW	1.3	2.6	28
NNW	1.2	2.5	10
N	.6	1.6	0

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.5	3.1	7
NE	1.4	2.9	22
ENE	1.1	2.6	7
E	.6	1.8	0
ESE	1.1	2.2	1
SE	.9	2.1	0
SSE	.9	2.2	0
S	.7	2.1	0
SSW	.9	2.3	0
SW	.4	1.6	0
WSW	.5	1.6	0
W	.6	2.3	0
WNW	.8	2.4	1
NW	.8	1.9	2
NNW	1.3	2.5	39
N	1.6	2.9	21

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.2	1
NE	1.0	2.3	10
ENE	.7	2.0	1
E	.6	1.7	0
ESE	1.1	2.2	9
SE	1.0	2.2	0
SSE	1.1	2.2	1
S	1.0	2.3	3
SSW	.8	2.1	0
SW	.8	2.0	4
WSW	.7	2.0	0
W	.7	2.2	1
WNW	.8	2.3	10
NW	.9	2.1	18
NNW	1.0	2.2	29
N	1.2	2.4	12

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.1	3.5	9
NE	2.1	3.5	25
ENE	1.7	3.5	10
E	1.3	2.9	0
ESE	.7	2.7	0
SE	.9	2.9	0
SSE	1.1	2.8	0
S	1.1	3.0	0
SSW	1.6	3.3	1
SW	.9	2.1	0
WSW	1.4	2.9	2
W	1.8	3.9	34
WNW	1.3	3.4	7
NW	1.2	2.9	4
NNW	1.0	3.1	0
N	1.8	3.5	7

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.2	3.3	10
NE	2.4	3.6	37
ENE	1.8	3.1	11
E	.6	1.8	0
ESE	1.2	2.8	0
SE	1.8	3.2	1
SSE	2.1	3.7	2
S	1.9	3.2	12
SSW	2.1	3.2	10
SW	.7	1.8	0
WSW	.7	1.6	0
W	.8	1.9	0
WNW	.7	2.0	0
NW	.7	1.8	0
NNW	1.3	2.4	6
N	2.0	3.0	12

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	.9	2.3	1
ENE	1.4	3.0	13
E	1.2	2.9	3
ESE	1.5	3.3	15
SE	1.8	3.3	4
SSE	1.8	3.4	3
S	1.5	3.0	15
SSW	1.8	3.1	23
SW	.9	1.8	1
WSW	1.2	2.5	6
W	1.2	2.5	14
WNW	.7	1.9	0
NW	.4	1.8	0
NNW	.5	2.0	0
N	.5	1.9	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.0	3.4	14
NE	1.9	3.6	32
ENE	1.6	3.5	15
E	1.0	2.8	0
ESE	.8	2.9	0
SE	1.5	3.5	0
SSE	1.6	3.4	1
S	1.3	3.1	1
SSW	1.7	3.3	9
SW	.7	1.8	0
WSW	.9	2.2	0
W	1.1	2.3	1
WNW	1.2	2.8	17
NW	1.1	2.4	5
NNW	.8	2.4	0
N	1.4	3.1	4

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.1	3.4	9
NE	2.4	3.7	41
ENE	1.7	3.0	8
E	.7	2.0	0
ESE	1.3	2.8	0
SE	2.0	3.4	1
SSE	2.1	3.4	2
S	1.8	3.0	8
SSW	1.8	2.8	4
SW	.5	1.6	0
WSW	.5	1.4	0
W	.6	1.6	0
WNW	.8	2.0	0
NW	.8	1.9	0
NNW	1.6	2.4	16
N	1.9	2.9	10

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	0
NE	1.1	2.4	4
ENE	1.2	2.7	8
E	1.3	2.8	7
ESE	1.6	3.3	29
SE	1.9	3.6	7
SSE	1.8	3.3	4
S	1.5	2.9	21
SSW	1.6	2.7	14
SW	.7	2.0	0
WSW	.8	2.1	0
W	.6	1.8	0
WNW	.7	2.1	0
NW	.8	1.9	1
NNW	.9	2.2	4
N	.7	1.9	0

TABLE E-231

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.2	0
NE	1.0	2.2	1
ENE	.7	2.2	0
E	1.3	2.7	2
ESE	1.5	2.8	3
SE	1.5	2.7	0
SSE	.8	2.3	0
S	.9	2.5	0
SSW	.9	2.6	0
SW	1.1	3.1	19
WSW	1.4	3.1	11
W	1.3	2.8	17
WNW	1.3	2.7	19
NW	1.3	2.6	19
NNW	1.2	2.5	9
N	.6	1.6	0

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.5	3.1	9
NE	1.4	2.9	20
ENE	1.1	2.6	11
E	.6	1.8	0
ESE	1.1	2.2	1
SE	.9	2.1	0
SSE	.9	2.2	0
S	.7	2.1	0
SSW	.9	2.3	0
SW	.4	1.6	0
WSW	.5	2.2	0
W	.6	2.3	2
WNW	.8	2.4	12
NW	.8	1.9	2
NNW	1.3	2.5	27
N	1.6	2.9	16

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.2	1
NE	1.0	2.3	9
ENE	.7	2.0	3
E	.6	1.7	0
ESE	1.1	2.2	4
SE	1.0	2.2	0
SSE	1.1	2.2	0
S	1.0	2.3	2
SSW	.8	2.1	0
SW	.8	2.0	1
WSW	.7	2.0	1
W	.7	2.2	9
WNW	.8	2.3	21
NW	.9	2.1	14
NNW	1.0	2.2	28
N	1.2	2.4	7

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.1	3.5	3
NE	2.1	3.5	12
ENE	1.7	3.5	7
E	1.3	2.9	0
ESE	.7	2.7	0
SE	.9	2.9	0
SSE	1.1	2.8	0
S	1.1	3.0	0
SSW	1.6	3.3	1
SW	.9	2.1	0
WSW	1.4	2.9	1
W	1.8	3.9	36
WNW	1.3	3.4	26
NW	1.2	2.9	6
NNW	1.0	3.1	4
N	1.8	3.5	3

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.2	3.3	7
NE	2.4	3.6	35
ENE	1.8	3.1	16
E	.6	1.8	0
ESE	1.2	2.8	1
SE	1.8	3.2	1
SSE	2.1	3.7	2
S	1.9	3.2	13
SSW	2.1	3.2	9
SW	.7	1.8	0
WSW	.7	1.6	0
W	.8	1.9	0
WNW	.7	2.0	0
NW	.7	1.8	0
NNW	1.3	2.4	7
N	2.0	3.0	8

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	.9	2.3	3
ENE	1.4	3.0	15
E	1.2	2.9	6
ESE	1.5	3.3	18
SE	1.8	3.3	3
SSE	1.8	3.4	3
S	1.5	3.0	12
SSW	1.6	3.1	13
SW	.9	1.8	0
WSW	1.2	2.5	5
W	1.2	2.5	20
WNW	.7	1.9	1
NW	.4	1.6	0
NNW	.5	2.0	0
N	.5	1.9	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.0	3.4	9
NE	1.9	3.6	26
ENE	1.6	3.5	16
E	1.0	2.8	1
ESE	.8	2.9	1
SE	1.5	3.5	1
SSE	1.6	3.4	1
S	1.3	3.1	4
SSW	1.7	3.3	6
SW	.7	1.8	0
WSW	.9	2.2	0
W	1.1	2.3	3
WNW	1.2	2.8	19
NW	1.1	2.4	7
NNW	.8	2.4	1
N	1.4	3.1	4

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.1	3.4	8
NE	2.4	3.7	41
ENE	1.7	3.0	13
E	.7	2.0	0
ESE	1.3	2.8	2
SE	2.0	3.4	2
SSE	2.1	3.4	2
S	1.8	3.0	9
SSW	1.8	2.8	3
SW	.5	1.6	0
WSW	.5	1.4	0
W	.6	1.6	0
WNW	.8	2.0	0
NW	.8	1.9	1
NNW	1.6	2.4	12
N	1.9	2.9	7

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	0
NE	1.1	2.4	5
ENE	1.2	2.7	12
E	1.3	2.8	10
ESE	1.6	3.3	31
SE	1.9	3.6	6
SSE	1.8	3.3	3
S	1.5	2.9	14
SSW	1.6	2.7	6
SW	.7	2.0	0
WSW	.8	2.1	0
W	.6	1.8	0
WNW	.7	2.1	5
NW	.8	1.9	2
NNW	.9	2.2	3
N	.7	1.9	0

TABLE E-232

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.5	2.7	3
NE	1.5	2.8	10
ENE	1.3	2.6	5
E	1.4	2.8	2
ESE	1.4	2.6	2
SE	1.0	2.3	0
SSE	1.2	2.7	0
S	1.1	2.6	0
SSW	1.6	3.0	5
SW	.9	2.3	0
WSW	1.2	2.6	2
W	1.5	3.4	38
WNW	1.1	2.4	8
NW	.9	2.2	1
NNW	1.3	2.5	17
N	1.5	2.7	7

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.5	2.9	4
NE	1.4	3.2	11
ENE	1.0	2.5	1
E	.9	2.4	0
ESE	1.1	2.4	0
SE	1.3	3.2	0
SSE	1.4	3.2	1
S	1.4	2.9	6
SSW	1.6	2.9	8
SW	.7	2.2	0
WSW	1.0	2.3	0
W	.8	1.9	0
WNW	.9	2.6	2
NW	1.3	3.2	30
NNW	1.4	3.0	30
N	1.5	2.8	8

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.5	2.7	2
NE	1.5	2.5	10
ENE	1.6	2.8	13
E	.7	1.9	0
ESE	.8	1.7	0
SE	1.3	2.4	0
SSE	1.2	2.3	0
S	1.1	2.0	0
SSW	1.1	2.1	0
SW	1.1	2.3	4
WSW	.9	2.0	0
W	1.0	2.4	1
WNW	1.5	3.4	69
NW	.1	1.8	0
NNW	.7	1.8	0
N	.8	2.0	0

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.6	2.8	0
NE	1.7	3.0	6
ENE	1.6	2.8	4
E	.6	2.0	0
ESE	.9	1.8	0
SE	1.5	2.5	0
SSE	1.7	2.8	0
S	1.5	2.9	1
SSW	1.4	2.7	0
SW	1.5	3.2	5
WSW	1.2	2.7	0
W	1.5	3.3	3
WNW	1.9	4.2	65
NW	1.6	2.8	14
NNW	1.3	2.6	2
N	.7	2.1	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.2	0
NE	1.0	2.3	1
ENE	.8	1.9	0
E	.7	2.1	0
ESE	.9	1.8	0
SE	1.0	2.2	0
SSE	1.0	2.2	0
S	.9	2.2	0
SSW	1.1	2.2	0
SW	.6	2.1	0
WSW	.8	1.8	0
W	.6	2.3	0
WNW	1.5	3.2	99
NW	.7	2.0	0
NNW	.8	2.0	1
N	.9	2.0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	1.0	2.3	0
ENE	.8	2.0	0
E	.5	2.0	0
ESE	1.2	2.4	0
SE	1.4	2.5	0
SSE	1.5	2.6	0
S	1.2	2.5	0
SSW	1.0	2.4	0
SW	1.0	2.9	0
WSW	1.0	2.3	0
W	1.9	3.8	38
WNW	1.6	3.3	33
NW	1.6	2.7	28
NNW	1.2	2.5	1
N	.6	2.3	0

TABLE E-233

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.5	2.7	1
NE	1.5	2.8	7
ENE	1.3	2.6	4
E	1.4	2.8	2
ESE	1.4	2.6	1
SE	1.0	2.3	0
SSE	1.2	2.7	0
S	1.1	2.6	0
SSW	1.6	3.0	3
SW	.9	2.3	1
WSW	1.2	2.6	2
W	1.5	3.4	55
WNW	1.1	2.4	8
NW	.9	2.2	2
NNW	1.3	2.5	11
N	1.5	2.7	3

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.5	2.9	2
NE	1.4	3.2	10
ENE	1.0	2.5	3
E	.9	2.4	0
ESE	1.1	2.4	0
SE	1.3	3.2	0
SSE	1.4	3.2	1
S	1.4	2.9	3
SSW	1.6	2.9	3
SW	.7	2.2	0
WSW	1.0	2.3	0
W	.8	1.9	0
WNW	.9	2.6	7
NW	1.3	3.2	42
NNW	1.4	3.0	25
N	1.5	2.8	4

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.5	2.7	1
NE	1.5	2.5	4
ENE	1.6	2.8	7
E	.7	1.9	0
ESE	.8	1.7	0
SE	1.3	2.4	0
SSE	1.2	2.3	0
S	1.1	2.0	0
SSW	1.1	2.1	0
SW	1.1	2.3	2
WSW	.9	2.0	0
W	1.0	2.4	2
WNW	1.5	3.4	84
NW	.1	1.8	0
NNW	.7	1.8	0
N	.8	2.0	0

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.6	2.8	0
NE	1.7	3.0	2
ENE	1.6	2.8	2
E	.6	2.0	0
ESE	.9	1.8	0
SE	1.5	2.5	0
SSE	1.7	2.8	0
S	1.5	2.9	0
SSW	1.4	2.7	0
SW	1.5	3.2	5
WSW	1.2	2.7	0
W	1.5	3.3	8
WNW	1.9	4.2	74
NW	1.6	2.8	8
NNW	1.3	2.6	1
N	.7	2.1	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.2	0
NE	1.0	2.3	1
ENE	.8	1.9	0
E	.7	2.1	0
ESE	.9	1.8	0
SE	1.0	2.2	0
SSE	1.0	2.2	0
S	.9	2.2	0
SSW	1.1	2.2	0
SW	.6	2.1	0
WSW	.8	1.8	0
W	.6	2.3	0
WNW	1.5	3.2	97
NW	.7	2.0	1
NNW	.8	2.0	1
N	.9	2.0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	1.0	2.3	0
ENE	.8	2.0	0
E	.5	2.0	0
ESE	1.2	2.4	0
SE	1.4	2.5	0
SSE	1.5	2.6	0
S	1.2	2.5	0
SSW	1.0	2.4	0
SW	1.0	2.9	1
WSW	1.0	2.3	0
W	1.9	3.8	43
WNW	1.6	3.3	37
NW	1.6	2.7	17
NNW	1.2	2.5	2
N	.6	2.3	0

TABLE E-234

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	3.1	4
NE	1.5	3.0	18
ENE	1.4	3.1	14
E	.7	2.1	0
ESE	1.1	2.4	1
SE	1.1	3.0	0
SSE	1.0	2.6	0
S	.8	2.4	0
SSW	1.1	2.6	0
SW	.3	1.8	0
WSW	.7	2.2	0
W	.7	1.8	0
WNW	1.0	2.1	6
NW	1.1	2.1	14
NNW	1.3	2.4	30
N	1.5	2.8	12

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	2.6	2
NE	1.4	2.8	7
ENE	1.3	2.8	5
E	.9	2.3	0
ESE	2.2	3.9	64
SE	2.2	3.6	6
SSE	1.7	3.1	1
S	1.2	2.6	1
SSW	1.5	3.3	4
SW	.6	1.5	0
WSW	.5	1.3	0
W	.4	1.2	0
WNW	1.0	2.1	1
NW	1.1	1.9	4
NNW	1.1	2.0	4
N	1.3	2.6	1

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.2	5
NE	.6	1.9	0
ENE	.1	1.9	0
E	.6	2.0	0
ESE	.7	2.2	0
SE	.7	2.0	0
SSE	.5	1.8	0
S	.3	1.7	0
SSW	.1	1.5	0
SW	.6	1.5	1
WSW	.6	1.4	0
W	.8	1.8	8
WNW	.9	2.1	51
NW	.6	1.8	4
NNW	.5	1.6	0
N	1.3	2.3	31

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.2	5
NE	.9	2.6	22
ENE	.6	2.3	3
E	.4	1.7	0
ESE	.8	2.1	6
SE	.7	2.1	0
SSE	.8	2.2	1
S	1.0	2.1	26
SSW	.5	1.8	0
SW	.6	1.6	3
WSW	.1	1.3	0
W	.6	1.8	3
WNW	.6	1.5	6
NW	.1	1.7	0
NNW	.7	1.6	15
N	.9	1.8	9

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	1
NE	.9	2.3	2
ENE	.9	2.0	2
E	.7	2.1	0
ESE	1.0	2.2	1
SE	1.0	1.9	0
SSE	.9	1.9	0
S	1.0	2.1	3
SSW	1.2	2.0	4
SW	.6	1.6	0
WSW	.7	1.6	0
W	.7	1.5	0
WNW	1.1	2.1	49
NW	.9	2.0	15
NNW	1.1	2.2	22
N	.9	1.9	1

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	.9	2.5	4
ENE	1.5	2.9	36
E	1.5	3.0	33
ESE	.9	2.5	0
SE	.5	1.9	0
SSE	.8	2.3	0
S	1.1	2.7	6
SSW	1.3	2.6	14
SW	.5	1.5	0
WSW	.5	1.4	0
W	.4	1.8	0
WNW	.8	2.1	3
NW	.4	1.9	0
NNW	.6	1.7	0
N	1.0	2.0	3

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	1
NE	.9	2.7	21
ENE	.8	2.4	14
E	.4	1.8	0
ESE	.8	2.1	8
SE	.8	2.1	1
SSE	1.0	2.2	2
S	.7	1.9	3
SSW	.4	1.6	0
SW	.1	1.4	0
WSW	.1	1.4	0
W	.7	1.8	22
WNW	.5	1.9	4
NW	.4	1.5	0
NNW	.6	1.6	7
N	.9	1.9	15

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.2	0
NE	.6	2.4	2
ENE	.8	2.1	1
E	.7	1.9	0
ESE	1.2	2.5	4
SE	.9	1.6	0
SSE	1.1	2.3	0
S	1.0	2.1	1
SSW	.6	1.8	0
SW	.5	1.4	0
WSW	.5	1.7	0
W	.7	2.0	0
WNW	1.3	2.7	76
NW	.7	1.9	0
NNW	1.1	2.1	15
N	1.0	2.0	2

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.3	0
NE	.9	2.6	2
ENE	1.6	2.9	37
E	1.5	2.9	24
ESE	.9	2.5	0
SE	.5	1.7	0
SSE	.9	2.2	0
S	1.1	2.8	6
SSW	1.2	2.3	4
SW	.3	1.6	0
WSW	.3	1.5	0
W	.8	2.3	3
WNW	.8	2.1	7
NW	.7	1.6	1
NNW	.8	2.2	4
N	1.2	2.6	10

TABLE E-235
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	3.1	8
NE	1.5	3.0	22
ENE	1.4	3.1	20
E	.7	2.1	0
ESE	1.1	2.4	1
SE	1.1	3.0	1
SSE	1.0	2.6	0
S	.8	2.4	1
SSW	1.1	2.6	2
SW	.3	1.8	0
WSW	.7	2.2	0
W	.7	1.8	0
WNW	1.0	2.1	4
NW	1.1	2.1	10
NNW	1.3	2.4	22
N	1.5	2.8	8

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	2.6	2
NE	1.4	2.8	9
ENE	1.3	2.8	7
E	.9	2.3	0
ESE	2.2	3.9	62
SE	2.2	3.6	5
SSE	1.7	3.1	1
S	1.2	2.6	2
SSW	1.5	3.3	6
SW	.6	1.5	0
WSW	.5	1.3	0
W	.4	1.2	0
WNW	1.0	2.1	0
NW	1.1	1.9	2
NNW	1.1	2.0	3
N	1.3	2.6	1

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.2	5
NE	.6	1.9	5
ENE	.1	1.9	0
E	.6	2.0	1
ESE	.7	2.2	3
SE	.7	2.0	0
SSE	.5	1.8	0
S	.3	1.7	0
SSW	.1	1.5	0
SW	.6	1.5	0
WSW	.6	1.4	0
W	.8	1.8	10
WNW	.9	2.1	42
NW	.6	1.8	15
NNW	.5	1.6	3
N	1.3	2.3	16

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.2	5
NE	.9	2.6	38
ENE	.6	2.3	16
E	.4	1.7	0
ESE	.8	2.1	5
SE	.7	2.1	0
SSE	.8	2.2	1
S	1.0	2.1	11
SSW	.5	1.8	0
SW	.6	1.6	3
WSW	.1	1.3	0
W	.6	1.8	11
WNW	.6	1.5	2
NW	.1	1.7	0
NNW	.7	1.6	4
N	.9	1.8	3

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.4	2
NE	.9	2.3	9
ENE	.9	2.0	2
E	.7	2.1	1
ESE	1.0	2.2	5
SE	1.0	1.9	0
SSE	.9	1.9	0
S	1.0	2.1	2
SSW	1.2	2.0	2
SW	.6	1.6	0
WSW	.7	1.6	0
W	.7	1.5	1
WNW	1.1	2.1	42
NW	.9	2.0	20
NNW	1.1	2.2	13
N	.9	1.9	1

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	.9	2.5	11
ENE	1.5	2.9	33
E	1.5	3.0	27
ESE	.9	2.5	2
SE	.5	1.9	0
SSE	.8	2.3	0
S	1.1	2.7	8
SSW	1.3	2.6	7
SW	.5	1.5	0
WSW	.5	1.4	0
W	.4	1.8	0
WNW	.8	2.1	8
NW	.4	1.9	1
NNW	.6	1.7	0
N	1.0	2.0	2

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	2
NE	.9	2.7	36
ENE	.8	2.4	24
E	.4	1.8	0
ESE	.8	2.1	5
SE	.8	2.1	1
SSE	1.0	2.2	1
S	.7	1.9	3
SSW	.4	1.6	0
SW	.1	1.4	0
WSW	.1	1.4	0
W	.7	1.8	18
WNW	.5	1.9	2
NW	.4	1.5	1
NNW	.6	1.6	1
N	.9	1.9	5

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.2	0
NE	.9	2.4	4
ENE	.8	2.1	1
E	.7	1.9	0
ESE	1.2	2.5	6
SE	.9	1.8	0
SSE	1.1	2.3	0
S	1.0	2.1	1
SSW	.8	1.8	0
SW	.5	1.4	0
WSW	.5	1.7	0
W	.7	2.0	0
WNW	1.3	2.7	78
NW	.7	1.9	2
NNW	1.1	2.1	8
N	1.0	2.0	1

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.3	1
NE	.9	2.6	8
ENE	1.6	2.9	30
E	1.5	2.9	18
ESE	.9	2.5	1
SE	.5	1.7	0
SSE	.9	2.2	0
S	1.1	2.8	11
SSW	1.2	2.3	2
SW	.3	1.6	0
WSW	.3	1.5	0
W	.8	2.3	6
WNW	.8	2.1	6
NW	.7	1.6	1
NNW	.8	2.2	8
N	1.2	2.6	8

TABLE E-236
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 36

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	1.8	1
NE	.9	2.1	12
ENE	1.0	2.5	18
E	.8	2.1	2
ESE	.7	1.7	0
SE	.5	1.4	0
SSE	.6	1.4	0
S	.5	1.6	0
SSW	.1	1.5	0
SW	.5	1.4	0
WSW	.4	1.2	0
W	.2	1.5	0
WNW	.9	1.8	45
NW	.7	1.7	16
NNW	.6	1.6	1
N	.9	1.7	7

LOCATION 36

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.0	0
NE	1.1	2.2	16
ENE	1.3	2.6	28
E	1.2	2.2	13
ESE	1.0	1.9	6
SE	.5	1.9	0
SSE	.3	1.7	0
S	.7	1.8	0
SSW	.6	1.9	0
SW	.4	1.4	0
WSW	.5	1.3	0
W	.9	1.9	10
WNW	.9	2.0	24
NW	.7	1.7	3
NNW	.5	1.5	0
N	.5	2.0	0

LOCATION 36

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.6	2.0	0
NE	1.1	2.4	6
ENE	1.4	2.4	20
E	1.3	2.3	8
ESE	1.2	2.1	5
SE	.1	1.7	0
SSE	.6	1.8	0
S	.8	2.1	0
SSW	.9	2.0	0
SW	.4	1.6	0
WSW	.1	1.6	0
W	1.3	2.4	48
WNW	.9	2.0	9
NW	.8	2.2	4
NNW	.6	1.9	0
N	.6	2.0	0

LOCATION 37

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.1	0
NE	1.3	2.4	7
ENE	1.7	2.9	22
E	1.6	2.8	7
ESE	1.3	2.5	1
SE	.8	1.8	0
SSE	.1	1.5	0
S	.1	1.4	0
SSW	.5	1.4	0
SW	.4	1.3	0
WSW	.1	1.4	0
W	.7	1.6	0
WNW	1.0	2.3	4
NW	1.4	2.7	38
NNW	1.3	2.8	21
N	.4	1.6	0

LOCATION 37

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.3	2.7	0
NE	2.2	3.5	7
ENE	2.7	4.3	20
E	2.8	4.0	14
ESE	2.4	3.5	6
SE	1.3	2.5	0
SSE	1.2	2.6	0
S	.7	2.0	0
SSW	.3	1.7	0
SW	.1	1.7	0
WSW	1.0	2.0	0
W	1.7	2.8	1
WNW	1.9	3.2	15
NW	2.1	3.4	27
NNW	1.9	3.1	9
N	.3	1.8	0

LOCATION 37

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.0	2.3	0
NE	1.5	2.7	16
ENE	1.7	2.8	28
E	1.8	2.8	27
ESE	1.6	2.7	24
SE	.8	1.9	0
SSE	.7	2.0	0
S	.1	1.5	0
SSW	.4	1.8	0
SW	.1	1.3	0
WSW	.3	1.3	0
W	.7	1.9	0
WNW	.8	1.8	0
NW	.8	1.8	2
NNW	.6	2.0	0
N	.4	1.7	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	1.9	0
NE	.1	1.7	0
ENE	.1	1.5	0
E	.1	1.4	0
ESE	.3	1.3	0
SE	.4	1.3	0
SSE	.1	1.6	0
S	.1	1.3	0
SSW	.4	1.2	0
SW	.5	1.6	0
WSW	.4	1.4	0
W	.3	1.7	0
WNW	.7	2.0	16
NW	.9	2.2	63
NNW	.8	2.2	19
N	.7	1.9	2

LOCATION 38

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.6	1.8	0
NE	.3	1.6	0
ENE	.1	1.5	0
E	.1	1.6	0
ESE	.2	1.4	0
SE	.1	1.4	0
SSE	.1	1.4	0
S	.1	1.6	0
SSW	.1	1.5	0
SW	.1	1.7	0
WSW	.1	1.5	0
W	.4	1.7	0
WNW	.4	2.0	0
NW	.9	2.4	79
NNW	.7	2.2	13
N	.9	2.2	9

LOCATION 38

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	1.8	0
NE	.6	2.1	0
ENE	.7	1.9	2
E	.4	1.4	0
ESE	.6	1.5	0
SE	.1	1.6	0
SSE	.1	1.5	0
S	.5	1.6	0
SSW	.6	1.6	0
SW	.4	1.4	0
WSW	.6	1.4	0
W	.8	1.8	7
WNW	1.0	2.1	78
NW	.7	2.1	5
NNW	.7	2.0	9
N	.7	1.7	1

TABLE E-237

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 36

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	1.8	2
NE	.9	2.1	18
ENE	1.0	2.5	26
E	.8	2.1	4
ESE	.7	1.7	1
SE	.5	1.4	0
SSE	.6	1.4	0
S	.5	1.6	0
SSW	.1	1.5	2
SW	.5	1.4	0
WSW	.4	1.2	0
W	.2	1.5	0
WNW	.9	1.8	10
NW	.7	1.7	27
NNW	.6	1.6	8
N	.9	1.7	2

LOCATION 36

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.0	1
NE	1.1	2.2	19
ENE	1.3	2.6	24
E	1.2	2.2	9
ESE	1.0	1.9	3
SE	.5	1.9	0
SSE	.3	1.7	0
S	.7	1.8	0
SSW	.6	1.9	0
SW	.4	1.4	0
WSW	.5	1.3	0
W	.9	1.9	12
WNW	.9	2.0	24
NW	.7	1.7	8
NNW	.5	1.5	0
N	.5	2.0	0

LOCATION 36

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.6	2.0	0
NE	1.1	2.4	10
ENE	1.4	2.4	15
E	1.3	2.3	4
ESE	1.2	2.1	2
SE	.1	1.7	0
SSE	.6	1.8	0
S	.8	2.1	0
SSW	.9	2.0	0
SW	.4	1.6	0
WSW	.1	1.6	0
W	1.3	2.4	33
WNW	.9	2.0	19
NW	.8	2.2	16
NNW	.6	1.9	1
N	.6	2.0	0

LOCATION 37

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.9	2.1	0
NE	1.3	2.4	3
ENE	1.7	2.9	9
E	1.6	2.8	2
ESE	1.3	2.5	0
SE	.8	1.8	0
SSE	.1	1.5	0
S	.1	1.4	0
SSW	.5	1.4	0
SW	.4	1.3	0
WSW	.1	1.4	49
W	.7	1.6	0
WNW	1.0	2.3	1
NW	1.4	2.7	21
NNW	1.3	2.8	14
N	.4	1.6	0

LOCATION 37

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.3	2.7	0
NE	2.2	3.5	8
ENE	2.7	4.3	21
E	2.8	4.0	11
ESE	2.4	3.5	5
SE	1.3	2.5	0
SSE	1.2	2.6	0
S	.7	2.0	0
SSW	.3	1.7	0
SW	.1	1.7	0
WSW	1.0	2.0	0
W	1.7	2.8	2
WNW	1.9	3.2	17
NW	2.1	3.4	26
NNW	1.9	3.1	11
N	.3	1.8	0

LOCATION 37

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.0	2.3	1
NE	1.5	2.7	20
ENE	1.7	2.8	27
E	1.8	2.8	25
ESE	1.6	2.7	20
SE	.8	1.9	0
SSE	.7	2.0	0
S	.1	1.5	0
SSW	.4	1.8	0
SW	.1	1.3	0
WSW	.3	1.3	0
W	.7	1.9	0
WNW	.8	1.8	0
NW	.8	1.8	5
NNW	.6	2.0	1
N	.4	1.7	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	1.9	0
NE	.1	1.7	0
ENE	.1	1.5	4
E	.1	1.4	0
ESE	.3	1.3	0
SE	.4	1.3	0
SSE	.1	1.6	28
S	.1	1.3	0
SSW	.4	1.2	0
SW	.5	1.6	0
WSW	.4	1.4	0
W	.3	1.7	0
WNW	.7	2.0	7
NW	.9	2.2	45
NNW	.8	2.2	14
N	.7	1.9	1

LOCATION 38

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.6	1.8	0
NE	.3	1.6	0
ENE	.1	1.5	7
E	.1	1.6	0
ESE	.2	1.4	0
SE	.1	1.4	3
SSE	.1	1.4	0
S	.1	1.6	0
SSW	.1	1.5	0
SW	.1	1.7	0
WSW	.1	1.5	0
W	.4	1.7	0
WNW	.4	2.0	8
NW	.9	2.4	56
NNW	.7	2.2	23
N	.9	2.2	3

LOCATION 38

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	1.8	0
NE	.6	2.1	2
ENE	.7	1.9	3
E	.4	1.4	0
ESE	.6	1.5	0
SE	.1	1.6	0
SSE	.1	1.5	0
S	.5	1.6	0
SSW	.6	1.6	0
SW	.4	1.4	0
WSW	.6	1.4	0
W	.8	1.9	6
WNW	1.0	2.1	54
NW	.7	2.1	21
NNW	.7	2.0	14
N	.7	1.7	1

TABLE E-238

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.7	0
NE	.6	1.5	0
ENE	.6	1.5	0
E	.7	1.6	0
ESE	.7	1.8	0
SE	.7	2.3	0
SSE	.5	2.2	0
S	.6	2.3	0
SSW	.1	2.0	0
SW	.8	2.3	0
WSW	.8	2.3	0
W	.7	2.2	0
WNW	.8	2.4	0
NW	.8	2.3	0
NNW	1.8	3.0	94
N	1.4	2.8	5

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.6	0
NE	.9	1.8	1
ENE	1.2	2.1	6
E	1.1	2.1	1
ESE	1.3	2.3	4
SE	1.1	2.1	0
SSE	.7	1.7	0
S	.6	1.9	0
SSW	.7	2.1	0
SW	1.2	2.7	27
WSW	1.0	2.8	1
W	.7	2.4	0
WNW	.8	2.3	2
NW	.9	2.2	4
NNW	1.4	2.6	50
N	1.2	2.3	3

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.3	0
NE	.7	1.7	0
ENE	1.0	2.2	0
E	1.1	2.4	0
ESE	1.5	2.6	1
SE	1.0	2.0	0
SSE	.7	2.2	0
S	.9	2.2	0
SSW	.9	2.5	0
SW	.5	2.0	0
WSW	.9	2.5	0
W	1.4	2.9	9
WNW	1.7	3.2	62
NW	1.5	2.7	28
NNW	1.0	2.3	1
N	.9	2.1	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.9	0
NE	.8	2.0	0
ENE	1.2	2.5	1
E	1.1	2.6	0
ESE	1.3	2.5	0
SE	1.2	2.4	0
SSE	1.0	2.3	0
S	.8	2.2	0
SSW	.8	1.9	0
SW	.1	2.1	0
WSW	.6	2.0	0
W	1.3	2.7	2
WNW	1.7	3.1	62
NW	1.6	2.8	31
NNW	1.3	2.6	4
N	1.1	2.2	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.0	0
NE	.8	2.0	0
ENE	.6	2.1	0
E	.7	1.9	0
ESE	.9	2.1	0
SE	.8	1.9	0
SSE	.3	2.0	0
S	.9	2.4	1
SSW	1.0	2.2	1
SW	1.0	2.3	16
WSW	.7	1.8	0
W	.7	2.0	0
WNW	.9	2.1	12
NW	1.0	2.0	21
NNW	1.2	2.5	40
N	1.2	2.4	8

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	2.3	1
NE	1.2	2.4	5
ENE	1.3	2.6	8
E	1.2	2.4	1
ESE	1.5	3.2	10
SE	1.0	2.5	0
SSE	1.1	2.4	0
S	1.7	3.0	20
SSW	1.4	2.6	2
SW	1.5	3.0	42
WSW	1.1	2.4	1
W	.5	2.0	0
WNW	1.0	2.3	3
NW	.8	2.2	1
NNW	.9	2.3	1
N	1.3	2.2	3

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.0	1
NE	.9	2.3	5
ENE	.6	1.9	0
E	1.2	2.3	13
ESE	1.4	2.7	44
SE	.4	2.1	0
SSE	.3	1.3	0
S	.1	1.6	0
SSW	.1	1.5	0
SW	.5	1.9	0
WSW	.5	1.9	0
W	.4	1.7	0
WNW	.7	1.8	3
NW	.9	1.5	30
NNW	.7	1.7	3
N	.7	1.8	0

TABLE E-239

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.7	0
NE	.6	1.5	0
ENE	.6	1.5	0
E	.7	1.6	0
ESE	.7	1.8	0
SE	.7	2.3	0
SSE	.5	2.2	0
S	.6	2.3	0
SSW	.1	2.0	0
SW	.8	2.3	3
WSW	.8	2.3	1
W	.7	2.2	1
WNW	.8	2.4	8
NW	.8	2.3	12
NNW	1.8	3.0	69
N	1.4	2.8	6

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.6	0
NE	.9	1.8	0
ENE	1.2	2.1	3
E	1.1	2.1	1
ESE	1.3	2.3	4
SE	1.1	2.1	0
SSE	.7	1.7	0
S	.6	1.9	0
SSW	.7	2.1	0
SW	1.2	2.7	29
WSW	1.0	2.8	6
W	.7	2.4	2
WNW	.8	2.3	10
NW	.9	2.2	9
NNW	1.4	2.6	34
N	1.2	2.3	1

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.3	0
NE	.7	1.7	0
ENE	1.0	2.2	1
E	1.1	2.4	0
ESE	1.5	2.6	1
SE	1.0	2.0	0
SSE	.7	2.2	0
S	.9	2.2	0
SSW	.9	2.5	0
SW	.5	2.0	0
WSW	.9	2.5	0
W	1.4	2.9	14
WNW	1.7	3.2	62
NW	1.5	2.7	22
NNW	1.0	2.3	1
N	.9	2.1	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.3	0
NE	.7	1.7	0
ENE	1.0	2.2	1
E	1.1	2.4	0
ESE	1.5	2.6	1
SE	1.0	2.0	0
SSE	.7	2.2	0
S	.9	2.2	0
SSW	.9	2.5	0
SW	.5	2.0	0
WSW	.9	2.5	0
W	1.4	2.9	14
WNW	1.7	3.2	62
NW	1.5	2.7	22
NNW	1.0	2.3	1
N	.9	2.1	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.0	0
NE	.8	2.0	1
ENE	.6	2.1	1
E	.7	1.9	0
ESE	.9	2.1	0
SE	.8	1.9	0
SSE	.3	2.0	0
S	.9	2.4	2
SSW	1.0	2.2	1
SW	1.0	2.3	19
WSW	.7	1.8	0
W	.7	2.0	1
WNW	.9	2.1	12
NW	1.0	2.0	15
NNW	1.2	2.5	40
N	1.2	2.4	6

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	2.3	0
NE	1.2	2.4	4
ENE	1.3	2.6	7
E	1.2	2.4	2
ESE	1.5	3.2	12
SE	1.0	2.5	0
SSE	1.1	2.4	0
S	1.7	3.0	12
SSW	1.4	2.6	1
SW	1.5	3.0	44
WSW	1.1	2.4	2
W	.5	2.0	0
WNW	1.0	2.3	7
NW	.8	2.2	4
NNW	.9	2.3	3
N	1.3	2.2	1

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.0	0
NE	.9	2.3	7
ENE	.6	1.9	1
E	1.2	2.3	8
ESE	1.4	2.7	34
SE	.4	2.1	0
SSE	.3	1.3	0
S	.1	1.6	40
SSW	.1	1.5	0
SW	.5	1.9	3
WSW	.5	1.9	0
W	.4	1.7	0
WNW	.7	1.8	4
NW	.9	1.5	1
NNW	.7	1.7	2
N	.7	1.8	1

TABLE E-240

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 43

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	2.5	19
NE	1.1	2.3	17
ENE	.7	1.9	1
E	.4	1.4	0
ESE	1.3	3.0	37
SE	1.0	2.4	0
SSE	.8	2.5	0
S	.4	1.9	0
SSW	.3	1.8	0
SW	.7	1.5	1
WSW	.8	1.8	1
W	.6	1.5	0
WNW	.6	1.4	0
NW	.5	1.9	0
NNW	.3	2.3	0
N	1.3	2.5	22

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 44

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.7	0
NE	.4	1.5	0
ENE	.1	1.5	0
E	.6	1.5	0
ESE	.9	2.4	0
SE	1.2	2.8	0
SSE	1.0	2.2	0
S	1.0	2.4	0
SSW	.9	2.0	0
SW	1.1	2.6	9
WSW	1.2	2.5	3
W	1.0	2.3	1
WNW	1.2	2.6	21
NW	1.3	2.6	37
NNW	1.4	3.0	28
N	.8	2.4	0

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.3	4
NE	.9	2.3	9
ENE	.7	2.0	1
E	.8	1.9	1
ESE	.9	2.0	1
SE	.7	2.0	0
SSE	.7	2.0	0
S	1.0	2.4	8
SSW	1.2	2.5	15
SW	.9	2.3	23
WSW	1.2	2.6	34
W	.3	1.7	0
WNW	.2	1.6	0
NW	.5	1.7	0
NNW	.7	2.3	3
N	.9	2.2	3

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.1	1
NE	1.0	2.4	10
ENE	.6	2.2	0
E	.6	1.8	0
ESE	1.1	2.3	9
SE	.9	2.0	0
SSE	.8	2.1	0
S	1.1	2.6	9
SSW	1.2	2.5	10
SW	1.0	2.5	21
WSW	1.2	2.6	21
W	.6	1.8	0
WNW	.5	1.6	0
NW	.4	1.8	0
NNW	.9	2.2	15
N	1.0	2.2	4

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	2.6	5
NE	.5	1.8	0
ENE	.6	1.7	0
E	.5	2.1	0
ESE	.9	2.4	0
SE	.8	2.3	0
SSE	1.2	2.4	0
S	1.3	2.8	9
SSW	1.2	2.8	4
SW	1.2	2.5	27
WSW	.9	2.5	1
W	.6	1.9	0
WNW	.4	1.8	0
NW	.7	1.8	1
NNW	1.2	2.4	36
N	1.5	2.7	18

TABLE E-241

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 43

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.4	2.5	12
NE	1.1	2.3	17
ENE	.7	1.9	3
E	.4	1.4	0
ESE	1.3	3.0	40
SE	1.0	2.4	1
SSE	.8	2.5	0
S	.4	1.9	1
SSW	.3	1.8	0
SW	.7	1.5	0
WSW	.8	1.8	0
W	.6	1.5	0
WNW	.6	1.4	0
NW	.5	1.9	1
NNW	.3	2.3	8
N	1.3	2.5	17

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 44

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.7	0
NE	.4	1.5	0
ENE	.1	1.5	0
E	.6	1.5	0
ESE	.9	2.4	0
SE	1.2	2.8	0
SSE	1.0	2.2	0
S	1.0	2.4	0
SSW	.9	2.0	0
SW	1.1	2.6	11
WSW	1.2	2.5	3
W	1.0	2.3	3
WNW	1.2	2.6	23
NW	1.3	2.6	29
NNW	1.4	3.0	31
N	.8	2.4	1

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.3	2
NE	.9	2.3	7
ENE	.7	2.0	3
E	.8	1.9	1
ESE	.9	2.0	1
SE	.7	2.0	0
SSE	.7	2.0	0
S	1.0	2.4	7
SSW	1.2	2.5	7
SW	.9	2.3	33
WSW	1.2	2.6	25
W	.3	1.7	0
WNW	.2	1.6	0
NW	.5	1.7	1
NNW	.7	2.3	10
N	.9	2.2	3

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.1	1
NE	1.0	2.4	9
ENE	.6	2.2	2
E	.6	1.8	0
ESE	1.1	2.3	4
SE	.9	2.0	0
SSE	.8	2.1	0
S	1.1	2.6	7
SSW	1.2	2.5	4
SW	1.0	2.5	31
WSW	1.2	2.6	21
W	.6	1.8	0
WNW	.5	1.6	0
NW	.4	1.8	0
NNW	.9	2.2	16
N	1.0	2.2	3

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	2.6	3
NE	.5	1.8	0
ENE	.6	1.7	0
E	.5	2.1	0
ESE	.9	2.4	1
SE	.8	2.3	0
SSE	1.2	2.4	0
S	1.3	2.8	11
SSW	1.2	2.8	6
SW	1.2	2.5	34
WSW	.9	2.5	5
W	.6	1.9	0
WNW	.4	1.8	0
NW	.7	1.8	2
NNW	1.2	2.4	26
N	1.5	2.7	10

TABLE E-242

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.2	0
NE	.8	2.2	0
ENE	1.1	2.7	6
E	.8	1.6	0
ESE	.6	2.1	0
SE	.8	1.7	0
SSE	.5	2.1	0
S	.8	2.1	0
SSW	1.2	2.3	2
SW	1.4	2.6	56
WSW	1.4	2.9	27
W	.8	1.9	0
WNW	.8	2.2	1
NW	.8	2.0	4
NNW	.8	2.3	2
N	.7	1.8	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.4	0
NE	.8	2.5	0
ENE	.9	2.6	0
E	1.6	3.1	2
ESE	2.5	3.8	43
SE	1.9	3.4	1
SSE	1.5	2.9	0
S	1.7	2.9	3
SSW	1.3	2.6	0
SW	1.5	2.9	11
WSW	1.7	3.1	7
W	1.1	2.3	0
WNW	1.1	2.2	1
NW	1.4	2.3	10
NNW	1.7	2.8	21
N	1.4	2.5	1

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	.5	2.1	0
ENE	.6	1.9	0
E	1.1	2.3	0
ESE	.7	1.7	0
SE	.4	1.8	0
SSE	.4	1.5	0
S	.7	1.6	0
SSW	.6	2.3	0
SW	1.9	3.7	37
WSW	1.2	3.4	0
W	.8	2.3	0
WNW	1.4	2.9	7
NW	1.4	2.8	13
NNW	1.9	3.6	41
N	1.5	3.0	1

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.3	0
NE	1.0	2.6	2
ENE	1.1	2.5	4
E	.7	2.0	0
ESE	.9	2.4	0
SE	.7	2.1	0
SSE	.7	1.8	0
S	.6	2.0	0
SSW	1.1	2.4	1
SW	1.3	2.6	43
WSW	1.6	2.9	34
W	.9	2.3	1
WNW	.8	2.3	1
NW	1.0	2.5	8
NNW	1.0	2.4	7
N	.7	2.1	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.5	0
NE	.9	2.5	0
ENE	.9	2.4	0
E	1.6	3.1	2
ESE	2.6	4.0	48
SE	1.9	3.2	1
SSE	1.6	3.0	0
S	1.8	3.0	4
SSW	1.3	2.7	0
SW	1.4	2.9	4
WSW	1.7	3.2	5
W	1.0	2.4	0
WNW	1.2	2.4	1
NW	1.5	2.5	13
NNW	1.7	2.9	22
N	1.6	2.8	1

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.7	0
NE	.3	1.9	0
ENE	.7	1.9	0
E	1.2	2.6	0
ESE	.7	2.1	0
SE	.7	1.9	0
SSE	.6	2.2	0
S	.2	2.0	0
SSW	.5	2.3	0
SW	1.7	3.7	28
WSW	1.2	3.3	0
W	.9	2.6	0
WNW	1.4	3.1	10
NW	1.4	2.9	15
NNW	1.9	3.5	45
N	1.6	3.1	3

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-243

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.2	0
NE	.8	2.2	2
ENE	1.1	2.7	10
E	.8	1.6	0
ESE	.6	2.1	0
SE	.8	1.7	0
SSE	.5	2.1	0
S	.8	2.1	0
SSW	1.2	2.3	1
SW	1.4	2.6	42
WSW	1.4	2.9	26
W	.8	1.9	1
WNW	.8	2.2	4
NW	.8	2.0	5
NNW	.8	2.3	8
N	.7	1.8	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.4	0
NE	.8	2.5	0
ENE	.9	2.6	2
E	1.6	3.1	4
ESE	2.5	3.8	33
SE	1.9	3.4	1
SSE	1.5	2.9	0
S	1.7	2.9	3
SSW	1.3	2.6	0
SW	1.5	2.9	17
WSW	1.7	3.1	10
W	1.1	2.3	1
WNW	1.1	2.2	2
NW	1.4	2.3	7
NNW	1.7	2.8	19
N	1.4	2.5	1

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.2	0
NE	.5	2.1	0
ENE	.6	1.9	0
E	1.1	2.3	0
ESE	.7	1.7	0
SE	.4	1.8	0
SSE	.4	1.5	0
S	.7	1.6	0
SSW	.6	2.3	0
SW	1.9	3.7	39
WSW	1.2	3.4	2
W	.8	2.3	0
WNW	1.4	2.9	13
NW	1.4	2.8	13
NNW	1.9	3.6	32
N	1.5	3.0	1

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.3	0
NE	1.0	2.6	6
ENE	1.1	2.5	8
E	.7	2.0	0
ESE	.9	2.4	0
SE	.7	2.1	0
SSE	.7	1.8	0
S	.6	2.0	0
SSW	1.1	2.4	1
SW	1.3	2.6	35
WSW	1.6	2.9	24
W	.9	2.3	1
WNW	.8	2.3	5
NW	1.0	2.5	11
NNW	1.0	2.4	12
N	.7	2.1	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.5	0
NE	.7	2.5	0
ENE	.9	2.4	1
E	1.6	3.1	3
ESE	2.6	4.0	38
SE	1.9	3.2	0
SSE	1.6	3.0	0
S	1.8	3.0	3
SSW	1.3	2.7	0
SW	1.4	2.9	11
WSW	1.7	3.2	8
W	1.0	2.4	1
WNW	1.2	2.4	3
NW	1.5	2.5	10
NNW	1.7	2.9	19
N	1.6	2.8	1

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.7	0
NE	.3	1.9	0
ENE	.7	1.9	0
E	1.2	2.6	0
ESE	.7	2.1	0
SE	.7	1.9	0
SSE	.6	2.2	0
S	.2	2.0	0
SSW	.5	2.3	0
SW	1.7	3.7	33
WSW	1.2	3.3	1
W	.9	2.6	0
WNW	1.4	3.1	17
NW	1.4	2.9	14
NNW	1.9	3.5	32
N	1.6	3.1	2

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-244

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	2.4	0
NE	.4	2.0	0
ENE	.5	1.9	0
E	.8	1.9	0
ESE	1.0	1.9	0
SE	1.2	2.3	0
SSE	1.4	2.8	0
S	1.6	3.0	11
SSW	1.7	3.2	7
SW	1.3	3.1	12
WSW	2.1	3.6	69
W	.6	2.2	0
WNW	.7	2.8	0
NW	.8	3.6	0
NNW	.1	1.7	0
N	.1	1.7	0

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	2.2	0
NE	.4	1.9	0
ENE	.6	2.1	0
E	.9	2.1	0
ESE	1.1	2.1	0
SE	1.1	2.1	0
SSE	1.3	2.7	0
S	1.7	3.0	13
SSW	1.7	3.3	10
SW	1.0	2.9	1
WSW	2.2	3.7	75
W	.7	2.2	0
WNW	.6	2.9	0
NW	.8	3.3	0
NNW	.5	1.8	0
N	.5	1.7	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.8	0
NE	.6	1.9	0
ENE	.9	2.2	2
E	.9	2.0	0
ESE	.9	1.9	0
SE	.8	1.9	0
SSE	.8	2.3	0
S	1.0	2.5	1
SSW	1.3	3.0	5
SW	1.1	2.8	14
WSW	1.1	2.7	3
W	1.3	2.8	47
WNW	.8	2.0	1
NW	.9	2.3	9
NNW	1.1	2.2	19
N	.8	2.5	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.2	0
NE	.5	1.5	0
ENE	.8	2.6	0
E	.9	2.2	0
ESE	1.0	2.3	1
SE	.6	1.6	0
SSE	.7	2.2	0
S	.9	2.5	0
SSW	1.3	3.0	5
SW	1.1	2.8	12
WSW	1.0	2.7	2
W	1.4	2.9	55
WNW	.8	2.1	2
NW	.9	2.2	6
NNW	1.1	2.3	16
N	1.0	2.2	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	0
NE	.6	1.9	0
ENE	1.0	2.2	4
E	1.5	2.5	13
ESE	1.6	2.4	33
SE	1.1	2.1	0
SSE	1.1	2.2	0
S	1.2	2.4	4
SSW	.9	2.6	0
SW	1.0	2.9	10
WSW	.9	2.8	1
W	1.1	2.8	19
WNW	.8	2.1	1
NW	.8	2.0	2
NNW	1.0	2.4	12
N	.7	1.9	0

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.3	0
NE	.6	2.0	0
ENE	1.0	2.6	1
E	1.5	2.7	3
ESE	1.7	2.8	10
SE	1.4	2.6	0
SSE	1.1	2.5	0
S	1.1	2.4	0
SSW	1.0	2.6	0
SW	1.2	3.0	7
WSW	.9	3.0	0
W	1.4	3.4	13
WNW	1.1	2.7	3
NW	1.5	3.2	35
NNW	1.5	3.2	25
N	1.5	3.2	3

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.5	0
NE	1.2	2.6	0
ENE	1.3	2.6	0
E	1.8	3.0	2
ESE	2.3	3.6	13
SE	1.7	2.9	0
SSE	1.3	2.4	0
S	1.3	2.8	0
SSW	.8	2.7	0
SW	1.7	3.1	8
WSW	2.7	4.3	51
W	1.6	3.1	4
WNW	1.6	2.9	11
NW	1.6	2.8	9
NNW	1.1	2.4	0
N	1.1	2.7	0

TABLE E-245

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.4	2.4	0
NE	.4	2.0	0
ENE	.5	1.9	0
E	.8	1.9	0
ESE	1.0	1.9	0
SE	1.2	2.3	0
SSE	1.4	2.8	0
S	1.6	3.0	6
SSW	1.7	3.2	4
SW	1.3	3.1	25
WSW	2.1	3.6	37
W	.6	2.2	0
WNW	.7	2.8	2
NW	.8	3.6	25
NNW	.1	1.7	0
N	.1	1.7	0

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	2.2	0
NE	.4	1.9	0
ENE	.6	2.1	0
E	.9	2.1	0
ESE	1.1	2.1	0
SE	1.1	2.1	0
SSE	1.3	2.7	0
S	1.7	3.0	7
SSW	1.7	3.3	6
SW	1.0	2.9	16
WSW	2.2	3.7	47
W	.7	2.2	0
WNW	.6	2.9	3
NW	.8	3.3	20
NNW	.5	1.8	0
N	.5	1.7	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.8	0
NE	.6	1.9	0
ENE	.9	2.2	2
E	.9	2.0	0
ESE	.9	1.9	0
SE	.8	1.9	0
SSE	.8	2.3	0
S	1.0	2.5	2
SSW	1.3	3.0	6
SW	1.1	2.8	25
WSW	1.1	2.7	6
W	1.3	2.8	37
WNW	.8	2.0	2
NW	.9	2.3	9
NNW	1.1	2.2	9
N	.8	2.5	1

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.2	0
NE	.5	1.5	0
ENE	.8	2.6	2
E	.9	2.2	0
ESE	1.0	2.3	0
SE	.6	1.6	0
SSE	.7	2.2	0
S	.9	2.5	1
SSW	1.3	3.0	7
SW	1.1	2.8	20
WSW	1.0	2.7	6
W	1.4	2.9	34
WNW	.8	2.1	4
NW	.9	2.2	6
NNW	1.1	2.3	9
N	1.0	2.2	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	2.1	0
NE	.6	1.9	0
ENE	1.0	2.2	4
E	1.5	2.5	4
ESE	1.6	2.4	5
SE	1.1	2.1	0
SSE	1.1	2.2	0
S	1.2	2.4	2
SSW	.9	2.6	0
SW	1.0	2.9	27
WSW	.9	2.8	5
W	1.1	2.8	34
WNW	.8	2.1	2
NW	.8	2.0	4
NNW	1.0	2.4	12
N	.7	1.9	0

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.3	0
NE	.6	2.0	0
ENE	1.0	2.6	1
E	1.5	2.7	1
ESE	1.7	2.8	1
SE	1.4	2.6	0
SSE	1.1	2.5	0
S	1.1	2.4	0
SSW	1.0	2.6	0
SW	1.2	3.0	12
WSW	.9	3.0	0
W	1.4	3.4	27
WNW	1.1	2.7	4
NW	1.5	3.2	30
NNW	1.5	3.2	21
N	1.5	3.2	3

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.5	0
NE	1.2	2.6	1
ENE	1.3	2.6	1
E	1.8	3.0	1
ESE	2.3	3.6	8
SE	1.7	2.9	0
SSE	1.3	2.4	0
S	1.3	2.8	0
SSW	.8	2.7	0
SW	1.7	3.1	14
WSW	2.7	4.3	43
W	1.6	3.1	8
WNW	1.6	2.9	8
NW	1.6	2.8	14
NNW	1.1	2.4	1
N	1.1	2.7	0

TABLE E-246

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.6	0
NE	.9	2.1	0
ENE	1.2	2.3	4
E	1.5	2.5	7
ESE	1.8	2.7	21
SE	1.3	2.4	0
SSE	1.0	2.2	0
S	1.2	2.5	1
SSW	1.2	2.4	0
SW	1.0	2.8	2
WSW	1.5	3.1	15
W	1.2	3.1	8
WNW	1.3	2.8	26
NW	1.1	2.5	11
NNW	1.1	2.4	5
N	.7	1.7	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.4	0
NE	.8	1.9	0
ENE	.8	2.1	0
E	.8	2.2	0
ESE	1.1	2.6	0
SE	1.0	2.4	0
SSE	.6	2.1	0
S	.6	1.9	0
SSW	.9	2.2	0
SW	1.3	2.9	30
WSW	1.4	2.8	11
W	1.4	2.9	38
WNW	1.0	2.4	7
NW	1.0	2.2	12
NNW	.7	1.7	0
N	.4	1.8	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.6	1.7	0
NE	.9	2.6	1
ENE	1.2	2.8	5
E	1.4	2.6	6
ESE	1.5	2.8	11
SE	1.3	2.4	0
SSE	1.0	2.3	0
S	1.3	2.5	3
SSW	1.3	2.8	2
SW	1.1	2.7	5
WSW	1.4	3.3	12
W	1.2	3.1	9
WNW	1.2	2.6	29
NW	1.1	2.3	9
NNW	1.1	2.2	10
N	.7	1.9	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	.7	2.0	0
ENE	.9	2.4	0
E	1.6	2.8	8
ESE	1.9	3.0	24
SE	1.5	2.7	0
SSE	1.1	2.4	0
S	1.1	2.6	0
SSW	1.1	2.5	0
SW	1.0	2.8	2
WSW	1.5	3.3	11
W	1.3	3.2	12
WNW	1.3	2.8	29
NW	1.2	2.7	10
NNW	1.1	2.4	3
N	.8	2.0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.9	0
NE	.6	1.7	0
ENE	.9	2.3	0
E	1.0	2.2	0
ESE	1.3	2.8	1
SE	.9	2.6	0
SSE	.6	2.0	0
S	.7	2.1	0
SSW	1.0	2.5	0
SW	1.2	3.2	13
WSW	1.5	3.0	15
W	1.5	3.1	45
WNW	1.2	2.5	15
NW	1.1	2.4	12
NNW	.8	1.9	0
N	.9	1.9	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.3	0
NE	.8	2.2	0
ENE	1.2	2.7	3
E	1.5	2.9	5
ESE	1.7	2.8	12
SE	1.4	2.4	0
SSE	1.1	2.5	0
S	1.2	3.0	0
SSW	1.4	3.2	2
SW	1.1	2.7	5
WSW	1.4	3.4	8
W	1.3	3.3	10
WNW	1.4	2.6	35
NW	1.2	2.3	12
NNW	1.2	2.7	8
N	.9	2.4	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.6	0
NE	.9	2.1	0
ENE	1.2	2.6	2
E	1.5	2.5	2
ESE	2.4	3.5	28
SE	1.8	2.8	0
SSE	1.4	2.4	0
S	1.4	2.6	0
SSW	1.3	2.8	0
SW	1.3	2.8	2
WSW	2.3	3.8	35
W	1.4	3.0	3
WNW	1.5	2.7	15
NW	1.4	2.8	6
NNW	1.1	2.3	0
N	1.1	2.9	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.7	0
NE	.5	1.7	0
ENE	.8	1.8	0
E	.9	2.1	0
ESE	1.1	2.2	0
SE	.9	2.2	0
SSE	.7	2.1	0
S	.7	1.8	0
SSW	1.0	2.5	0
SW	2.0	3.8	40
WSW	2.5	4.1	43
W	1.7	3.1	9
WNW	1.4	2.7	3
NW	1.4	2.4	5
NNW	.8	2.3	0
N	.2	1.8	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.1	3.0	1
NE	1.4	3.3	26
ENE	.8	2.6	1
E	.7	2.5	0
ESE	.5	2.1	0
SE	.8	2.6	0
SSE	.8	2.4	0
S	.5	1.6	0
SSW	.7	1.8	0
SW	.1	1.6	0
WSW	.5	1.6	0
W	.6	1.7	0
WNW	1.0	2.2	22
NW	.8	2.3	7
NNW	1.2	2.7	40
N	1.0	2.4	2

TABLE E-247

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.6	0
NE	.9	2.1	0
ENE	1.2	2.3	3
E	1.5	2.5	2
ESE	1.8	2.7	4
SE	1.3	2.4	0
SSE	1.0	2.2	0
S	1.2	2.5	0
SSW	1.2	2.4	0
SW	1.0	2.8	10
WSW	1.5	3.1	12
W	1.2	3.1	26
WNW	1.3	2.8	28
NW	1.1	2.5	9
NNW	1.1	2.4	5
N	.7	1.7	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.4	0
NE	.8	1.9	0
ENE	.8	2.1	1
E	.8	2.2	0
ESE	1.1	2.6	0
SE	1.0	2.4	0
SSE	.6	2.1	0
S	.6	1.9	0
SSW	.9	2.2	0
SW	1.3	2.9	29
WSW	1.4	2.8	8
W	1.4	2.9	42
WNW	1.0	2.4	10
NW	1.0	2.2	10
NNW	.7	1.7	0
N	.4	1.8	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.6	1.7	0
NE	.9	2.6	1
ENE	1.2	2.8	6
E	1.4	2.6	3
ESE	1.5	2.8	3
SE	1.3	2.4	0
SSE	1.0	2.3	0
S	1.3	2.5	2
SSW	1.3	2.8	1
SW	1.1	2.7	8
WSW	1.4	3.3	14
W	1.2	3.1	31
WNW	1.2	2.6	23
NW	1.1	2.3	3
NNW	1.1	2.2	6
N	.7	1.9	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.7	2.0	0
NE	.7	2.0	0
ENE	.9	2.4	2
E	1.6	2.8	3
ESE	1.9	3.0	5
SE	1.5	2.7	0
SSE	1.1	2.4	0
S	1.1	2.6	0
SSW	1.1	2.5	0
SW	1.0	2.8	7
WSW	1.5	3.3	10
W	1.3	3.2	31
WNW	1.3	2.8	27
NW	1.2	2.7	12
NNW	1.1	2.4	5
N	.8	2.0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.9	0
NE	.6	1.7	0
ENE	.9	2.3	1
E	1.0	2.2	0
ESE	1.3	2.8	1
SE	.9	2.6	0
SSE	.6	2.0	0
S	.7	2.1	0
SSW	1.0	2.5	0
SW	1.2	3.2	26
WSW	1.5	3.0	8
W	1.5	3.1	40
WNW	1.2	2.5	12
NW	1.1	2.4	13
NNW	.8	1.9	0
N	.9	1.9	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.8	2.3	0
NE	.8	2.2	0
ENE	1.2	2.7	4
E	1.5	2.9	3
ESE	1.7	2.8	3
SE	1.4	2.4	0
SSE	1.1	2.5	0
S	1.2	3.0	1
SSW	1.4	3.2	2
SW	1.1	2.7	7
WSW	1.4	3.4	11
W	1.3	3.3	27
WNW	1.4	2.6	24
NW	1.2	2.3	5
NNW	1.2	2.7	11
N	.9	2.4	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.6	0
NE	1.2	2.6	1
ENE	1.5	2.6	3
E	2.0	3.1	4
ESE	2.4	3.5	13
SE	1.8	2.8	0
SSE	1.4	2.4	0
S	1.4	2.6	0
SSW	1.3	2.8	0
SW	1.3	2.8	7
WSW	2.3	3.8	34
W	1.4	3.0	10
WNW	1.5	2.7	15
NW	1.4	2.8	12
NNW	1.1	2.3	1
N	1.1	2.9	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	.5	1.7	0
NE	.5	1.7	0
ENE	.8	1.8	0
E	.9	2.1	0
ESE	1.1	2.2	0
SE	.9	2.2	0
SSE	.7	2.1	0
S	.7	1.8	0
SSW	1.0	2.5	0
SW	2.0	3.8	44
WSW	2.5	4.1	35
W	1.7	3.1	12
WNW	1.4	2.7	5
NW	1.4	2.4	4
NNW	.6	2.3	0
N	.2	1.8	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT (ANNUAL)
NNE	1.1	3.0	3
NE	1.4	3.3	29
ENE	.8	2.6	5
E	.7	2.5	1
ESE	.5	2.1	0
SE	.8	2.6	0
SSE	.8	2.4	0
S	.5	1.6	0
SSW	.7	1.8	0
SW	.1	1.6	0
WSW	.5	1.6	0
W	.6	1.7	0
WNW	1.0	2.2	16
NW	.8	2.3	12
NNW	1.2	2.7	30
N	1.0	2.4	2

TABLE E-248

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.2	0
NE	.8	2.2	0
ENE	1.2	2.8	1
E	1.2	2.5	0
ESE	1.6	2.7	3
SE	1.3	2.5	0
SSE	1.0	2.5	0
S	1.4	2.7	2
SSW	1.6	3.2	3
SW	1.4	3.0	17
WSW	1.4	3.3	4
W	1.3	3.1	5
WNW	1.4	2.8	23
NW	1.3	2.5	13
NNW	1.6	2.9	28
N	.6	1.9	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.3	0
NE	.7	2.0	0
ENE	.6	1.8	0
E	.5	1.8	0
ESE	.7	2.2	0
SE	.9	2.1	0
SSE	.7	2.1	0
S	.4	2.1	0
SSW	.7	2.6	0
SW	.8	2.7	0
WSW	1.6	3.5	16
W	1.1	2.5	3
WNW	1.3	2.7	30
NW	1.4	3.0	51
NNW	.8	2.0	0
N	.5	1.4	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.4	0
NE	.8	2.2	0
ENE	1.1	2.6	1
E	1.3	2.4	0
ESE	1.6	2.6	2
SE	1.2	2.4	0
SSE	1.0	2.4	0
S	1.4	2.9	1
SSW	1.6	3.1	2
SW	1.3	3.0	6
WSW	1.5	3.4	4
W	1.4	3.2	8
WNW	1.5	2.9	29
NW	1.4	2.7	20
NNW	1.6	2.9	26
N	.6	2.2	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	3.0	0
NE	.7	1.6	0
ENE	.5	1.9	0
E	.7	2.0	0
ESE	.8	2.0	0
SE	.9	2.0	0
SSE	.7	1.9	0
S	.5	2.2	0
SSW	.7	2.3	0
SW	.8	2.6	0
WSW	1.9	3.8	25
W	1.4	3.1	9
WNW	1.5	3.2	34
NW	1.5	3.1	32
NNW	.8	2.2	0
N	.5	1.7	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.7	0
NE	.9	2.1	0
ENE	.9	2.0	0
E	1.4	2.6	2
ESE	1.6	2.8	7
SE	1.4	2.6	0
SSE	1.0	2.5	0
S	.8	2.3	0
SSW	.9	2.7	0
SW	1.0	2.9	2
WSW	1.4	3.1	6
W	1.4	2.9	12
WNW	1.4	2.8	36
NW	1.3	2.5	25
NNW	1.3	2.5	10
N	.6	2.3	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-249

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.2	0
NE	.8	2.2	0
ENE	1.2	2.8	3
E	1.2	2.5	0
ESE	1.6	2.7	1
SE	1.3	2.5	0
SSE	1.0	2.5	0
S	1.4	2.7	1
SSW	1.6	3.2	2
SW	1.4	3.0	20
WSW	1.4	3.3	7
W	1.3	3.1	17
WNW	1.4	2.8	20
NW	1.3	2.5	9
NNW	1.6	2.9	19
N	.6	1.9	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	2.3	0
NE	.7	2.0	0
ENE	.6	1.8	0
E	.5	1.8	0
ESE	.7	2.2	0
SE	.9	2.1	0
SSE	.7	2.1	0
S	.4	2.1	0
SSW	.7	2.6	0
SW	.8	2.7	3
WSW	1.6	3.5	21
W	1.1	2.5	5
WNW	1.3	2.7	27
NW	1.4	3.0	44
NNW	.8	2.0	1
N	.5	1.4	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.4	0
NE	.8	2.2	0
ENE	1.1	2.6	2
E	1.3	2.4	0
ESE	1.6	2.6	0
SE	1.2	2.4	0
SSE	1.0	2.4	0
S	1.4	2.9	1
SSW	1.6	3.1	2
SW	1.3	3.0	14
WSW	1.5	3.4	8
W	1.4	3.2	19
WNW	1.5	2.9	22
NW	1.4	2.7	13
NNW	1.6	2.9	19
N	.6	2.2	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	3.0	0
NE	.7	1.6	0
ENE	.5	1.9	0
E	.7	2.0	0
ESE	.8	2.0	0
SE	.9	2.0	0
SSE	.7	1.9	0
S	.5	2.2	0
SSW	.7	2.3	0
SW	.8	2.6	1
WSW	1.9	3.8	22
W	1.4	3.1	14
WNW	1.5	3.2	31
NW	1.5	3.1	32
NNW	.8	2.2	0
N	.5	1.7	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.7	0
NE	.9	2.1	0
ENE	.9	2.0	0
E	1.4	2.6	1
ESE	1.6	2.8	3
SE	1.4	2.6	0
SSE	1.0	2.5	0
S	.8	2.3	0
SSW	.9	2.7	0
SW	1.0	2.9	13
WSW	1.4	3.1	9
W	1.4	2.9	15
WNW	1.4	2.8	31
NW	1.3	2.5	14
NNW	1.3	2.5	12
N	.6	2.3	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-250

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.7	0
NE	1.5	3.4	8
ENE	1.4	3.2	6
E	1.5	2.9	3
ESE	1.7	2.8	9
SE	1.5	2.8	0
SSE	1.2	2.7	0
S	1.5	3.0	3
SSW	1.3	3.1	0
SW	1.2	2.7	3
WSW	1.6	3.9	7
W	1.4	3.6	14
WNW	1.3	2.7	15
NW	1.2	2.8	9
NNW	1.5	2.9	23
N	.8	2.1	0

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.5	0
NE	.9	2.3	0
ENE	1.3	3.2	2
E	1.6	2.8	3
ESE	1.8	2.8	8
SE	1.4	2.6	0
SSE	1.2	2.6	0
S	1.6	2.9	3
SSW	1.4	3.3	0
SW	1.3	2.7	5
WSW	1.6	3.8	6
W	1.6	3.7	16
WNW	1.4	2.9	16
NW	1.3	2.7	10
NNW	1.7	3.0	30
N	1.0	2.3	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.0	0
NE	.8	1.9	0
ENE	.9	2.0	0
E	.7	2.3	0
ESE	.5	1.9	0
SE	.7	1.8	0
SSE	.9	2.2	0
S	.6	1.8	0
SSW	.6	1.9	0
SW	.4	1.7	0
WSW	.5	1.6	0
W	1.5	2.5	14
WNW	1.6	2.7	50
NW	1.5	2.5	37
NNW	1.0	2.1	0
N	.9	2.1	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.8	0
NE	.7	2.1	0
ENE	1.0	2.4	0
E	1.0	2.3	0
ESE	1.4	2.6	1
SE	.5	1.9	0
SSE	.6	1.8	0
S	.6	2.2	0
SSW	.7	2.0	0
SW	.3	1.7	0
WSW	1.0	1.9	0
W	1.5	2.5	16
WNW	1.5	2.8	36
NW	1.6	2.6	45
NNW	1.1	2.2	2
N	.9	2.1	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 72

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.8	0
NE	1.8	3.9	53
ENE	1.0	2.6	4
E	.5	2.0	0
ESE	.6	1.9	0
SE	.5	2.1	0
SSE	.9	2.4	0
S	.7	2.2	0
SSW	1.3	2.5	6
SW	.7	1.8	1
WSW	1.0	2.1	2
W	.8	1.8	1
WNW	.8	1.6	4
NW	.8	2.0	3
NNW	1.1	2.4	22
N	1.0	2.2	2

LOCATION 72

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.7	0
NE	.5	1.5	0
ENE	.6	1.8	1
E	.9	2.0	12
ESE	1.1	2.4	53
SE	.7	1.9	0
SSE	.7	1.6	0
S	.4	1.8	0
SSW	.4	1.9	0
SW	.5	1.7	2
WSW	.8	2.1	10
W	.5	1.6	0
WNW	.2	1.8	0
NW	.7	1.8	18
NNW	.6	1.7	3
N	.5	1.3	0

TABLE E-251

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.7	0
NE	1.5	3.4	8
ENE	1.4	3.2	7
E	1.5	2.9	1
ESE	1.7	2.8	1
SE	1.5	2.8	0
SSE	1.2	2.7	0
S	1.5	3.0	2
SSW	1.3	3.1	0
SW	1.2	2.7	4
WSW	1.6	3.9	13
W	1.4	3.6	34
WNW	1.3	2.7	9
NW	1.2	2.8	7
NNW	1.5	2.9	12
N	.8	2.1	0

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.0	2.5	0
NE	.9	2.3	0
ENE	1.3	3.2	4
E	1.6	2.8	1
ESE	1.8	2.8	2
SE	1.4	2.6	0
SSE	1.2	2.6	0
S	1.6	2.9	1
SSW	1.4	3.3	1
SW	1.3	2.7	5
WSW	1.6	3.8	13
W	1.6	3.7	36
WNW	1.4	2.9	14
NW	1.3	2.7	7
NNW	1.7	3.0	16
N	1.0	2.3	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.0	0
NE	.8	1.9	0
ENE	.9	2.0	0
E	.7	2.3	0
ESE	.5	1.9	0
SE	.7	1.8	0
SSE	.9	2.2	0
S	.6	1.8	0
SSW	.6	1.9	0
SW	.4	1.7	0
WSW	.5	1.6	0
W	1.5	2.5	15
WNW	1.6	2.7	47
NW	1.5	2.5	35
NNW	1.0	2.1	2
N	.9	2.1	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	1.8	0
NE	.7	2.1	0
ENE	1.0	2.4	2
E	1.0	2.3	0
ESE	1.4	2.6	2
SE	.5	1.9	0
SSE	.6	1.8	0
S	.6	2.2	0
SSW	.7	2.0	0
SW	.3	1.7	0
WSW	1.0	1.9	0
W	1.5	2.5	13
WNW	1.5	2.8	41
NW	1.6	2.6	37
NNW	1.1	2.2	4
N	.9	2.1	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 72

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.8	0
NE	1.8	3.9	57
ENE	1.0	2.6	9
E	.5	2.0	0
ESE	.6	1.9	0
SE	.5	2.1	0
SSE	.9	2.4	0
S	.7	2.2	0
SSW	1.3	2.5	3
SW	.7	1.8	1
WSW	1.0	2.1	1
W	.8	1.8	0
WNW	.8	1.6	1
NW	.8	2.0	2
NNW	1.1	2.4	22
N	1.0	2.2	2

LOCATION 72

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.7	0
NE	.5	1.5	0
ENE	.6	1.8	2
E	.9	2.0	5
ESE	1.1	2.4	38
SE	.7	1.9	0
SSE	.7	1.6	0
S	.4	1.8	0
SSW	.4	1.9	2
SW	.5	1.7	15
WSW	.8	2.1	25
W	.5	1.6	7
WNW	.2	1.8	0
NW	.7	1.8	2
NNW	.6	1.7	2
N	.5	1.3	1

TABLE E-252

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 73

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.6	0
NE	1.0	2.9	1
ENE	1.5	3.1	21
E	1.4	2.9	7
ESE	1.2	2.7	2
SE	1.0	2.6	0
SSE	1.1	2.5	0
S	1.0	2.4	1
SSW	1.5	2.9	8
SW	.8	2.2	0
WSW	1.4	2.6	12
W	1.1	2.4	8
WNW	1.0	2.6	6
NW	1.1	2.5	14
NNW	1.2	2.7	18
N	1.1	2.8	2

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.7	0
NE	.8	2.7	0
ENE	.9	3.0	0
E	1.8	3.3	12
ESE	2.3	3.7	65
SE	1.7	3.0	1
SSE	1.4	2.6	0
S	1.4	2.9	4
SSW	1.3	3.0	1
SW	.8	2.0	0
WSW	1.5	2.6	7
W	.8	2.1	0
WNW	1.0	2.0	2
NW	1.0	2.0	2
NNW	1.1	2.4	5
N	1.0	2.3	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.6	0
NE	.9	2.0	4
ENE	1.1	2.4	11
E	1.2	2.4	8
ESE	1.7	3.0	74
SE	1.3	2.7	1
SSE	.9	2.2	0
S	.8	2.0	0
SSW	.7	2.5	0
SW	.7	2.0	1
WSW	.7	2.0	0
W	.8	1.8	1
WNW	.5	1.7	0
NW	.2	1.9	0
NNW	.6	1.7	0
N	.5	1.7	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.7	0
NE	1.2	2.8	11
ENE	1.0	2.4	6
E	1.2	2.8	6
ESE	1.4	2.7	23
SE	1.3	2.4	1
SSE	1.2	2.5	1
S	1.0	2.2	1
SSW	1.4	2.6	9
SW	.3	1.8	0
WSW	.6	1.9	0
W	.5	1.7	0
WNW	.7	2.0	1
NW	1.0	2.1	18
NNW	1.1	2.1	24
N	.9	2.1	1

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.4	0
NE	.1	1.5	0
ENE	.4	1.7	1
E	.5	1.6	2
ESE	.5	1.5	1
SE	.1	1.3	0
SSE	.5	1.6	1
S	.2	1.7	0
SSW	.6	1.9	7
SW	.1	1.6	0
WSW	.7	1.7	35
W	.1	1.5	0
WNW	.1	1.4	0
NW	.1	1.4	0
NNW	.1	1.4	0
N	.3	1.5	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.0	0
NE	.7	2.3	0
ENE	.9	2.1	1
E	.9	2.6	0
ESE	1.8	3.6	69
SE	1.5	3.3	3
SSE	1.0	2.8	0
S	1.0	2.5	1
SSW	1.1	2.4	1
SW	.3	1.8	0
WSW	.7	1.9	0
W	.9	1.9	4
WNW	.7	1.6	0
NW	.7	1.4	1
NNW	.8	1.8	2
N	1.5	2.8	16

LOCATION 76

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.0	0
NE	1.3	2.7	8
ENE	2.4	3.8	61
E	1.8	3.4	22
ESE	1.5	3.1	8
SE	.9	2.4	0
SSE	.6	1.9	0
S	.7	1.9	0
SSW	1.0	2.3	0
SW	.1	1.9	0
WSW	.9	2.2	0
W	.6	1.9	0
WNW	.5	1.8	0
NW	.6	1.6	0
NNW	.8	1.8	1
N	.9	2.1	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-253

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

LOCATION 73

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.6	0
NE	1.0	2.9	6
ENE	1.5	3.1	18
E	1.4	2.9	6
ESE	1.2	2.7	2
SE	1.0	2.6	0
SSE	1.1	2.5	0
S	1.0	2.4	1
SSW	1.5	2.9	5
SW	.8	2.2	1
WSW	1.4	2.6	7
W	1.1	2.4	6
WNW	1.0	2.6	12
NW	1.1	2.5	13
NNW	1.2	2.7	17
N	1.1	2.8	3

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.7	0
NE	.8	2.7	1
ENE	.9	3.0	4
E	1.8	3.3	16
ESE	2.3	3.7	54
SE	1.7	3.0	1
SSE	1.4	2.6	0
S	1.4	2.9	6
SSW	1.3	3.0	3
SW	.8	2.0	0
WSW	1.5	2.6	6
W	.8	2.1	0
WNW	1.0	2.0	2
NW	1.0	2.0	2
NNW	1.1	2.4	6
N	1.0	2.3	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.6	0
NE	.9	2.0	4
ENE	1.1	2.4	14
E	1.2	2.4	8
ESE	1.7	3.0	60
SE	1.3	2.7	2
SSE	.9	2.2	0
S	.8	2.0	1
SSW	.7	2.5	2
SW	.7	2.0	3
WSW	.7	2.0	1
W	.8	1.8	3
WNW	.5	1.7	1
NW	.2	1.9	0
NNW	.6	1.7	1
N	.5	1.7	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.7	0
NE	1.2	2.8	16
ENE	1.0	2.4	8
E	1.2	2.8	7
ESE	1.4	2.7	14
SE	1.3	2.4	0
SSE	1.2	2.5	1
S	1.0	2.2	2
SSW	1.4	2.6	5
SW	.3	1.8	0
WSW	.6	1.9	0
W	.5	1.7	0
WNW	.7	2.0	5
NW	1.0	2.1	21
NNW	1.1	2.1	19
N	.9	2.1	1

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.1	1.4	0
NE	.1	1.5	17
ENE	.4	1.7	6
E	.5	1.6	0
ESE	.5	1.5	3
SE	.1	1.3	0
SSE	.5	1.6	0
S	.2	1.7	1
SSW	.6	1.9	10
SW	.1	1.6	4
WSW	.7	1.7	32
W	.1	1.5	0
WNW	.1	1.4	1
NW	.1	1.4	0
NNW	.1	1.4	24
N	.3	1.5	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.0	0
NE	.7	2.3	2
ENE	.9	2.1	3
E	.9	2.6	3
ESE	1.8	3.6	64
SE	1.5	3.3	3
SSE	1.0	2.8	1
S	1.0	2.5	4
SSW	1.1	2.4	2
SW	.3	1.8	0
WSW	.7	1.9	0
W	.9	1.9	4
WNW	.7	1.6	1
NW	.7	1.4	0
NNW	.8	1.8	1
N	1.5	2.8	12

LOCATION 76

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.8	2.0	0
NE	1.3	2.7	12
ENE	2.4	3.8	50
E	1.8	3.4	23
ESE	1.5	3.1	13
SE	.9	2.4	0
SSE	.6	1.9	0
S	.7	1.9	0
SSW	1.0	2.3	0
SW	.1	1.9	0
WSW	.9	2.2	0
W	.6	1.9	0
WNW	.5	1.8	0
NW	.6	1.6	0
NNW	.8	1.8	0
N	.9	2.1	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.0	.0	0
NE	.0	.0	0
ENE	.0	.0	0
E	.0	.0	0
ESE	.0	.0	0
SE	.0	.0	0
SSE	.0	.0	0
S	.0	.0	0
SSW	.0	.0	0
SW	.0	.0	0
WSW	.0	.0	0
W	.0	.0	0
WNW	.0	.0	0
NW	.0	.0	0
NNW	.0	.0	0
N	.0	.0	0

TABLE E-254

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.5	0
NE	.7	1.7	0
ENE	.1	2.0	0
E	.5	1.9	0
ESE	1.5	2.8	43
SE	1.6	3.0	7
SSE	1.5	3.1	3
S	1.4	3.0	30
SSW	1.4	3.0	18
SW	.6	1.6	0
WSW	.6	1.6	0
W	.5	1.5	0
WNW	.6	1.6	0
NW	.5	1.8	0
NNW	.3	1.6	0
N	.7	1.4	0

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.3	3.6	12
NE	2.1	3.5	20
ENE	1.7	3.4	7
E	.7	2.5	0
ESE	2.2	3.6	19
SE	2.1	3.6	1
SSE	1.8	3.4	0
S	1.2	2.7	0
SSW	1.4	2.8	0
SW	.5	1.4	0
WSW	.5	1.5	0
W	.1	1.4	0
WNW	.5	1.8	0
NW	.7	1.9	0
NNW	1.6	2.7	17
N	2.4	3.3	23

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.4	0
NE	1.8	3.0	12
ENE	2.0	3.4	22
E	1.7	2.9	4
ESE	1.2	2.3	0
SE	.6	1.6	0
SSE	.4	1.5	0
S	.6	1.8	0
SSW	.3	1.1	0
SW	.5	1.3	0
WSW	.3	1.3	0
W	.8	1.6	0
WNW	1.3	2.2	5
NW	1.6	2.6	36
NNW	1.6	2.5	22
N	.9	2.0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.6	0
NE	.1	1.6	0
ENE	.1	2.1	0
E	.7	2.0	1
ESE	.9	2.4	14
SE	.9	2.0	2
SSE	1.1	2.7	4
S	.9	2.4	15
SSW	.6	1.4	0
SW	.6	1.8	12
WSW	.4	1.4	0
W	.1	1.2	0
WNW	.6	1.5	21
NW	.2	1.5	0
NNW	.7	1.6	20
N	.9	1.7	11

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.8	1
NE	.9	2.1	1
ENE	1.2	2.6	7
E	1.3	2.5	3
ESE	1.6	2.6	16
SE	.9	1.9	0
SSE	.3	1.5	0
S	.6	1.9	0
SSW	.9	1.7	0
SW	.1	1.6	0
WSW	.8	1.6	0
W	.6	1.7	0
WNW	.7	1.9	0
NW	.5	1.8	0
NNW	1.5	2.5	47
N	1.8	2.8	26

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.5	3.0	1
NE	2.0	3.2	25
ENE	2.2	3.4	28
E	1.9	2.9	9
ESE	1.6	2.4	2
SE	.8	1.7	0
SSE	.8	2.1	0
S	.6	1.9	0
SSW	.6	1.4	0
SW	.3	1.2	0
WSW	.5	1.4	0
W	.8	1.6	0
WNW	1.1	2.1	2
NW	1.4	2.5	21
NNW	1.4	2.5	12
N	.7	2.0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.7	0
NE	.1	1.8	0
ENE	.1	1.9	0
E	.6	1.9	0
ESE	.9	2.2	15
SE	1.0	2.4	2
SSE	1.0	2.5	2
S	.6	1.8	0
SSW	.6	1.7	0
SW	.4	1.4	0
WSW	.4	1.3	0
W	.5	1.8	0
WNW	.8	1.8	50
NW	.5	1.4	1
NNW	.6	1.9	7
N	1.1	2.0	23

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	2.8	0
NE	.7	2.5	0
ENE	1.2	2.6	3
E	1.1	2.3	0
ESE	.5	1.6	0
SE	.4	1.7	0
SSE	.5	1.7	0
S	.2	1.7	0
SSW	.8	1.7	0
SW	.6	1.8	0
WSW	.7	1.7	0
W	.3	2.0	0
WNW	1.3	2.8	17
NW	1.0	2.2	3
NNW	1.7	2.8	49
N	2.0	3.1	27

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.8	0
NE	1.8	3.3	24
ENE	2.1	3.2	38
E	1.9	3.0	19
ESE	1.7	2.5	15
SE	.7	2.0	0
SSE	.7	1.9	0
S	.8	2.0	0
SSW	.9	1.9	0
SW	.4	1.8	0
WSW	.5	1.9	0
W	.7	1.6	0
WNW	.7	1.8	0
NW	.9	2.1	1
NNW	1.0	2.0	3
N	.7	2.1	0

TABLE E-255

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.7	1.5	0
NE	.7	1.7	0
ENE	.1	2.0	0
E	.5	1.9	0
ESE	1.5	2.8	34
SE	1.6	3.0	5
SSE	1.5	3.1	4
S	1.4	3.0	34
SSW	1.4	3.0	22
SW	.6	1.6	0
WSW	.6	1.6	0
W	.5	1.5	0
WNW	.6	1.6	0
NW	.5	1.8	0
NNW	.3	1.6	0
N	.7	1.4	0

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	2.3	3.6	10
NE	2.1	3.5	20
ENE	1.7	3.4	15
E	.7	2.5	0
ESE	2.2	3.6	19
SE	2.1	3.6	1
SSE	1.8	3.4	1
S	1.2	2.7	0
SSW	1.4	2.8	1
SW	.5	1.4	0
WSW	.5	1.5	0
W	.1	1.4	0
WNW	.5	1.8	0
NW	.7	1.9	0
NNW	1.6	2.7	19
N	2.4	3.3	15

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.4	0
NE	1.8	3.0	15
ENE	2.0	3.4	23
E	1.7	2.9	5
ESE	1.2	2.3	0
SE	.6	1.6	0
SSE	.4	1.5	0
S	.6	1.8	0
SSW	.3	1.1	0
SW	.5	1.3	0
WSW	.3	1.3	0
W	.8	1.6	0
WNW	1.3	2.2	4
NW	1.6	2.6	32
NNW	1.6	2.5	20
N	.9	2.0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.6	0
NE	.1	1.6	6
ENE	.1	2.1	1
E	.7	2.0	2
ESE	.9	2.4	12
SE	.9	2.0	1
SSE	1.1	2.7	3
S	.9	2.4	18
SSW	.6	1.4	0
SW	.6	1.8	7
WSW	.4	1.4	0
W	.1	1.2	47
WNW	.6	1.5	0
NW	.2	1.5	1
NNW	.7	1.6	0
N	.9	1.7	1

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.2	2.8	4
NE	.9	2.1	2
ENE	1.2	2.6	14
E	1.3	2.5	6
ESE	1.6	2.6	11
SE	.9	1.9	0
SSE	.3	1.5	0
S	.6	1.9	0
SSW	.9	1.7	0
SW	.1	1.6	0
WSW	.8	1.6	0
W	.6	1.7	0
WNW	.7	1.9	1
NW	.5	1.8	1
NNW	1.5	2.5	42
N	1.8	2.8	18

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.5	3.0	4
NE	2.0	3.2	25
ENE	2.2	3.4	26
E	1.9	2.9	7
ESE	1.6	2.4	1
SE	.8	1.7	0
SSE	.8	2.1	0
S	.6	1.9	0
SSW	.6	1.4	0
SW	.3	1.2	0
WSW	.5	1.4	0
W	.8	1.6	0
WNW	1.1	2.1	2
NW	1.4	2.5	23
NNW	1.4	2.5	12
N	.7	2.0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.7	0
NE	.1	1.8	0
ENE	.1	1.9	1
E	.6	1.9	3
ESE	.9	2.2	15
SE	1.0	2.4	2
SSE	1.0	2.5	2
S	.6	1.8	1
SSW	.6	1.7	0
SW	.4	1.4	1
WSW	.4	1.3	0
W	.5	1.8	1
WNW	.8	1.8	44
NW	.5	1.4	0
NNW	.6	1.9	18
N	1.1	2.0	10

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.3	2.8	2
NE	.7	2.5	1
ENE	1.2	2.6	6
E	1.1	2.3	1
ESE	.5	1.6	0
SE	.4	1.7	0
SSE	.5	1.7	0
S	.2	1.7	0
SSW	.8	1.7	0
SW	.6	1.8	0
WSW	.7	1.7	0
W	.3	2.0	0
WNW	1.3	2.8	36
NW	1.0	2.2	5
NNW	1.7	2.8	36
N	2.0	3.1	14

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	1.1	2.8	2
NE	1.8	3.3	30
ENE	2.1	3.2	33
E	1.9	3.0	14
ESE	1.7	2.5	7
SE	.7	2.0	0
SSE	.7	1.9	0
S	.8	2.0	0
SSW	.9	1.9	0
SW	.4	1.8	0
WSW	.5	1.9	0
W	.7	1.6	0
WNW	.7	1.8	0
NW	.9	2.1	7
NNW	1.0	2.0	7
N	.7	2.1	0

TABLE E-256

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.3	2
NE	.5	1.8	0
ENE	.1	2.0	0
E	.7	2.1	0
ESE	1.2	2.8	27
SE	.9	2.7	0
SSE	.7	2.1	0
S	.7	1.5	0
SSW	.5	2.5	0
SW	.8	1.8	15
WSW	.7	1.6	0
W	.4	1.6	0
WNW	.8	1.8	28
NW	.6	1.5	1
NNW	.6	1.7	1
N	1.2	2.6	26

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.6	0
NE	1.7	3.5	58
ENE	.8	2.2	1
E	.1	1.6	0
ESE	.3	2.0	0
SE	.1	2.0	0
SSE	.9	2.3	0
S	.7	2.3	0
SSW	1.1	2.6	2
SW	.7	1.7	2
WSW	1.0	2.0	4
W	.6	1.7	0
WNW	.8	1.6	5
NW	.6	1.9	1
NNW	1.0	2.5	21
N	1.1	2.5	5

2000 FULL-BUILD POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.4	0
NE	.1	1.6	0
ENE	.5	1.7	0
E	1.1	2.0	25
ESE	1.2	2.2	55
SE	.7	1.5	0
SSE	.5	1.4	0
S	.1	1.5	0
SSW	.1	1.6	0
SW	.1	2.1	0
WSW	.8	2.3	10
W	.5	2.0	0
WNW	.3	1.6	0
NW	.6	1.8	3
NNW	.6	1.9	5
N	.7	1.6	1

TABLE E-257
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.9	2.3	4
NE	.5	1.8	2
ENE	.1	2.0	1
E	.7	2.1	3
ESE	1.2	2.8	49
SE	.9	2.7	2
SSE	.7	2.1	0
S	.7	1.5	0
SSW	.5	2.5	2
SW	.8	1.8	1
WSW	.7	1.6	1
W	.4	1.6	1
WNW	.8	1.8	12
NW	.6	1.5	0
NNW	.6	1.7	3
N	1.2	2.6	20

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.6	1.6	0
NE	1.7	3.5	52
ENE	.8	2.2	4
E	.1	1.6	0
ESE	.3	2.0	0
SE	.1	2.0	0
SSE	.9	2.3	0
S	.7	2.3	0
SSW	1.1	2.6	3
SW	.7	1.7	1
WSW	1.0	2.0	3
W	.6	1.7	1
WNW	.8	1.6	3
NW	.6	1.9	1
NNW	1.0	2.5	26
N	1.1	2.5	5

2000 FULL-BUILD POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT (ANNUAL)
NNE	.5	1.4	0
NE	.1	1.6	13
ENE	.5	1.7	1
E	1.1	2.0	10
ESE	1.2	2.2	30
SE	.7	1.5	0
SSE	.5	1.4	0
S	.1	1.5	0
SSW	.1	1.6	1
SW	.1	2.1	1
WSW	.8	2.3	27
W	.5	2.0	5
WNW	.3	1.6	0
NW	.6	1.8	0
NNW	.6	1.9	9
N	.7	1.6	2

TABLE E-258
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.4	2.0	0	0
NE	.8	2.0	0	0
ENE	.9	2.2	0	0
E	1.5	2.9	1	0
ESE	1.8	2.9	2	2
SE	1.4	2.8	0	0
SSE	1.0	2.6	0	0
S	.8	2.7	0	0
SSW	.9	2.2	0	0
SW	1.4	3.2	2	4
WSW	2.6	4.2	56	67
W	1.7	3.4	19	12
WNW	1.5	3.0	12	8
NW	1.5	2.8	7	7
NNW	.4	1.7	0	0
N	1.1	2.2	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.9	1	0
NE	1.4	2.6	25	17
ENE	.8	2.5	0	0
E	1.0	2.2	2	1
ESE	1.6	2.8	31	26
SE	1.0	2.4	0	0
SSE	.6	2.1	0	0
S	.1	3.3	0	0
SSW	.7	2.6	0	0
SW	1.1	2.9	12	20
WSW	1.2	3.2	7	9
W	1.1	3.2	16	14
WNW	.9	2.7	5	5
NW	.8	2.4	2	4
NNW	.9	2.3	1	3
N	.8	2.4	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.8	0	0
NE	.5	1.8	0	0
ENE	.3	1.7	0	0
E	.8	2.2	0	0
ESE	1.2	2.7	0	0
SE	.9	1.9	0	0
SSE	.6	1.8	0	0
S	.5	1.9	0	0
SSW	.5	2.3	0	0
SW	.8	2.2	0	0
WSW	2.3	3.7	60	71
W	1.4	2.9	12	7
WNW	1.3	2.7	12	8
NW	1.4	2.6	16	14
NNW	.7	1.9	0	0
N	1.4	3.2	0	1

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.6	2.2	0	0
NE	1.1	2.6	0	0
ENE	1.4	2.9	1	1
E	1.6	3.0	3	1
ESE	2.1	3.2	16	12
SE	1.6	2.8	0	0
SSE	1.3	2.7	0	0
S	1.0	2.6	0	0
SSW	.9	2.4	0	0
SW	1.3	3.4	1	2
WSW	2.4	4.1	42	53
W	1.6	3.4	11	8
WNW	1.5	3.0	14	11
NW	1.5	2.8	11	12
NNW	.7	2.1	0	0
N	1.0	2.3	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.6	2.7	0	0
NE	1.6	3.1	35	25
ENE	1.3	2.7	11	10
E	.9	2.3	0	0
ESE	1.6	2.7	20	18
SE	1.1	2.2	0	0
SSE	.8	2.1	0	0
S	.5	1.8	0	0
SSW	.5	2.5	0	0
SW	1.2	3.2	8	16
WSW	1.2	3.1	4	6
W	1.2	3.4	17	16
WNW	.9	2.9	2	3
NW	.9	2.9	2	5
NNW	.9	2.6	0	1
N	.8	2.5	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.7	0	0
NE	.6	2.3	0	0
ENE	.7	2.1	0	0
E	.7	2.0	0	0
ESE	1.2	2.6	0	0
SE	1.0	2.1	0	0
SSE	.8	2.0	0	0
S	.7	2.2	0	0
SSW	.7	2.5	0	0
SW	.8	2.4	0	0
WSW	2.6	4.0	53	65
W	1.6	3.3	12	7
WNW	1.5	2.9	15	10
NW	1.6	2.9	20	18
NNW	.8	2.4	0	0
N	1.0	2.8	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.5	0	0
NE	.8	2.1	0	0
ENE	.6	1.8	0	0
E	.6	1.8	0	0
ESE	.8	2.0	0	0
SE	.9	2.0	0	0
SSE	1.1	2.2	0	0
S	1.1	2.6	0	0
SSW	1.4	2.9	0	0
SW	1.2	2.9	0	1
WSW	2.5	4.3	37	47
W	1.7	3.4	12	9
WNW	1.7	3.0	24	18
NW	1.8	3.0	27	24
NNW	1.3	3.3	0	2
N	1.3	3.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-259
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.4	2.0	0	0
NE	.8	2.0	0	0
ENE	.9	2.2	0	0
E	1.5	2.9	1	0
ESE	1.8	2.9	1	1
SE	1.4	2.8	0	0
SSE	1.0	2.6	0	0
S	.8	2.7	0	0
SSW	.9	2.2	0	0
SW	1.4	3.2	6	10
WSW	2.6	4.2	38	47
W	1.7	3.4	26	18
WNW	1.5	3.0	17	13
NW	1.5	2.8	10	11
NNW	.4	1.7	0	0
N	1.1	2.2	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.9	1	1
NE	1.4	2.6	10	6
ENE	.8	2.5	1	1
E	1.0	2.2	1	0
ESE	1.6	2.8	3	3
SE	1.0	2.4	0	0
SSE	.6	2.1	0	0
S	.1	3.3	0	0
SSW	.7	2.6	0	0
SW	1.1	2.9	19	26
WSW	1.2	3.2	6	8
W	1.1	3.2	41	33
WNW	.9	2.7	12	11
NW	.8	2.4	4	7
NNW	.9	2.3	1	4
N	.8	2.4	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.8	0	0
NE	.5	1.8	0	0
ENE	.3	1.7	0	0
E	.8	2.2	0	0
ESE	1.2	2.7	0	0
SE	.9	1.9	0	0
SSE	.6	1.8	0	0
S	.5	1.9	0	0
SSW	.5	2.3	0	0
SW	.8	2.2	0	1
WSW	2.3	3.7	41	51
W	1.4	2.9	18	13
WNW	1.3	2.7	20	14
NW	1.4	2.6	19	18
NNW	.7	1.9	0	0
N	1.4	3.2	1	3

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.6	2.2	0	0
NE	1.1	2.6	1	1
ENE	1.4	2.9	2	2
E	1.6	3.0	2	1
ESE	2.1	3.2	4	4
SE	1.6	2.8	0	0
SSE	1.3	2.7	0	0
S	1.0	2.6	0	0
SSW	.9	2.4	0	0
SW	1.3	3.4	8	12
WSW	2.4	4.1	31	36
W	1.6	3.4	22	16
WNW	1.5	3.0	19	14
NW	1.5	2.8	12	13
NNW	.7	2.1	0	0
N	1.0	2.3	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.6	2.7	0	0
NE	1.6	3.1	18	12
ENE	1.3	2.7	6	6
E	.9	2.3	0	0
ESE	1.6	2.7	2	2
SE	1.1	2.2	0	0
SSE	.8	2.1	0	0
S	.5	1.8	0	0
SSW	.6	2.5	0	0
SW	1.2	3.2	18	25
WSW	1.2	3.1	4	5
W	1.2	3.4	33	27
WNW	.9	2.9	11	10
NW	.9	2.9	6	9
NNW	.9	2.6	1	3
N	.8	2.5	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.6	2.7	0	0
NE	.6	2.3	0	0
ENE	.7	2.1	0	0
E	.7	2.0	0	0
ESE	1.2	2.6	0	0
SE	1.0	2.1	0	0
SSE	.8	2.0	0	0
S	.7	2.2	0	0
SSW	.7	2.5	0	0
SW	.8	2.4	0	0
WSW	2.6	4.0	38	48
W	1.6	3.3	20	15
WNW	1.5	2.9	19	15
NW	1.6	2.9	23	21
NNW	.8	2.4	0	0
N	1.0	2.8	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	2.5	0	0
NE	.8	2.1	0	0
ENE	.6	1.8	0	0
E	.6	1.8	0	0
ESE	.8	2.0	0	0
SE	.9	2.0	0	0
SSE	1.1	2.2	0	0
S	1.1	2.6	0	0
SSW	1.4	2.9	0	0
SW	1.2	2.9	0	1
WSW	2.5	4.3	26	36
W	1.7	3.4	22	16
WNW	1.7	3.0	18	13
NW	1.8	3.0	22	24
NNW	1.3	3.3	5	8
N	1.3	3.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-260
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.4	0	0
NE	1.2	2.4	0	0
ENE	.8	2.1	0	0
E	.4	1.7	0	0
ESE	.8	2.0	0	0
SE	.3	1.9	0	0
SSE	.1	2.3	0	0
S	.9	2.0	0	0
SSW	1.5	2.9	0	1
SW	1.3	2.5	1	4
WSW	1.9	3.5	16	21
W	1.5	3.0	9	7
WNW	1.7	3.1	55	46
NW	1.5	2.8	18	20
NNW	1.1	2.6	0	1
N	1.4	3.1	0	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.4	2	1
NE	.7	1.7	1	1
ENE	.4	1.5	0	0
E	.7	1.9	0	0
ESE	.6	1.6	0	0
SE	.3	1.4	0	0
SSE	.2	1.5	0	0
S	.5	1.7	0	0
SSW	.4	1.7	0	0
SW	.9	2.5	7	11
WSW	1.2	2.5	21	26
W	1.0	2.5	19	14
WNW	.8	2.4	11	9
NW	.9	2.6	22	21
NNW	1.0	2.3	16	17
N	.7	2.2	0	0

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.0	0	0
NE	.8	2.0	0	0
ENE	.7	1.9	0	0
E	1.1	2.1	1	1
ESE	1.5	2.7	19	22
SE	1.0	2.3	0	0
SSE	.7	1.8	0	0
S	.5	2.0	0	0
SSW	.6	2.0	0	0
SW	.4	1.7	0	0
WSW	.7	2.2	0	0
W	.6	2.0	0	0
WNW	.8	2.4	0	1
NW	.6	2.3	0	0
NNW	1.5	3.2	79	75
N	.8	2.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.9	0	0
NE	.9	2.2	0	0
ENE	.8	2.1	0	0
E	.8	1.9	0	0
ESE	.9	2.4	0	0
SE	1.5	2.6	0	1
SSE	1.3	2.3	0	0
S	.7	1.9	0	0
SSW	.9	2.0	0	0
SW	.5	1.7	0	0
WSW	.5	1.7	0	0
W	.6	1.8	0	0
WNW	1.0	2.3	2	4
NW	1.0	2.5	5	10
NNW	1.7	3.1	93	82
N	1.2	2.1	0	2

TABLE E-261

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 5

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.4	0	0
NE	1.2	2.4	1	1
ENE	.8	2.1	0	0
E	.4	1.7	0	0
ESE	.8	2.0	0	0
SE	.3	1.9	0	0
SSE	.1	2.3	0	0
S	.9	2.0	0	0
SSW	1.5	2.9	0	1
SW	1.3	2.5	2	5
WSW	1.9	3.5	15	19
W	1.5	3.0	18	14
WNW	1.7	3.1	40	32
NW	1.5	2.8	22	22
NNW	1.1	2.6	2	5
N	1.4	3.1	0	2

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.4	0	0
NE	.7	1.7	0	0
ENE	.4	1.5	0	0
E	.7	1.9	0	0
ESE	.6	1.6	0	0
SE	.3	1.4	0	0
SSE	.2	1.5	0	0
S	.5	1.7	0	0
SSW	.4	1.7	0	0
SW	.9	2.5	9	15
WSW	1.2	2.5	7	8
W	1.0	2.5	18	14
WNW	.8	2.4	18	15
NW	.9	2.6	37	33
NNW	1.0	2.3	9	13
N	.7	2.2	0	0

LOCATION 8

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.0	0	0
NE	.8	2.0	1	1
ENE	.7	1.9	0	0
E	1.1	2.1	1	0
ESE	1.5	2.7	6	8
SE	1.0	2.3	0	0
SSE	.7	1.8	0	0
S	.5	2.0	0	0
SSW	.6	2.0	0	0
SW	.4	1.7	0	0
WSW	.7	2.2	0	0
W	.6	2.0	0	0
WNW	.8	2.4	11	14
NW	.6	2.3	2	6
NNW	1.5	3.2	80	70
N	.8	2.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 10

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.9	0	0
NE	.9	2.2	1	1
ENE	.8	2.1	0	0
E	.8	1.9	0	0
ESE	.9	2.4	0	1
SE	1.5	2.6	0	0
SSE	1.3	2.3	0	0
S	.7	1.9	0	0
SSW	.9	2.0	0	0
SW	.5	1.7	0	0
WSW	.5	1.7	0	0
W	.6	1.8	0	0
WNW	1.0	2.3	5	7
NW	1.0	2.5	19	25
NNW	1.7	3.1	74	65
N	1.2	2.1	0	1

TABLE E-262

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.0	0	0
NE	1.1	2.2	32	22
ENE	.9	2.4	14	12
E	.6	2.0	0	0
ESE	.9	1.9	4	5
SE	.9	2.2	0	1
SSE	1.0	2.5	1	1
S	.9	2.2	7	7
SSW	.6	2.0	0	0
SW	.8	2.2	7	14
WSW	.6	2.1	0	0
W	.7	2.2	4	4
WNW	.7	2.2	6	6
NW	.8	1.8	17	20
NNW	.7	1.8	3	6
N	.3	1.8	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 11

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.1	0	0
NE	1.6	3.1	18	13
ENE	1.4	2.5	9	9
E	1.4	2.8	4	3
ESE	2.0	3.5	47	40
SE	1.5	3.0	0	0
SSE	1.0	2.6	0	0
S	.6	1.9	0	0
SSW	.8	1.9	0	0
SW	.9	2.2	0	1
WSW	1.1	2.3	0	0
W	.8	2.1	0	0
WNW	.8	1.8	0	0
NW	1.2	2.3	10	15
NNW	1.3	2.3	13	19
N	1.0	2.2	0	0

LOCATION 12

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.2	2.7	2	1
NE	1.3	2.8	14	10
ENE	1.2	2.5	7	6
E	1.3	2.5	8	5
ESE	1.4	2.4	11	11
SE	1.1	2.4	0	0
SSE	.9	2.1	0	0
S	.7	1.9	0	0
SSW	1.0	2.2	0	0
SW	.6	1.6	0	0
WSW	.8	1.8	0	0
W	.9	2.2	1	1
WNW	1.0	2.7	14	15
NW	1.2	2.7	38	39
NNW	1.1	2.1	6	11
N	1.0	2.2	0	1

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.6	1	1
NE	1.1	2.8	8	6
ENE	.9	2.3	1	1
E	.9	2.4	0	0
ESE	1.6	2.7	40	33
SE	1.5	2.7	1	3
SSE	1.5	2.8	2	2
S	.9	2.3	0	0
SSW	1.0	2.3	0	0
SW	.5	1.8	0	0
WSW	.7	1.8	0	0
W	.8	2.1	0	0
WNW	1.1	2.3	38	35
NW	.8	2.2	1	3
NNW	1.0	2.2	8	14
N	1.0	2.1	0	1

TABLE E-263

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.0	1	1
NE	1.1	2.2	15	10
ENE	.9	2.4	16	13
E	.6	2.0	1	0
ESE	.9	1.9	1	1
SE	.9	2.2	0	1
SSE	1.0	2.5	1	1
S	.9	2.2	6	6
SSW	.6	2.0	0	0
SW	.8	2.2	17	24
WSW	.6	2.1	1	2
W	.7	2.2	15	13
WNW	.7	2.2	22	20
NW	.8	1.8	2	4
NNW	.7	1.8	1	4
N	.3	1.8	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 11

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.1	0	0
NE	1.6	3.1	23	17
ENE	1.4	2.5	5	6
E	1.4	2.8	6	4
ESE	2.0	3.5	47	40
SE	1.5	3.0	0	1
SSE	1.0	2.6	0	0
S	.6	1.9	0	0
SSW	.8	1.9	0	0
SW	.9	2.2	1	3
WSW	1.1	2.3	1	2
W	.8	2.1	1	1
WNW	.8	1.8	0	0
NW	1.2	2.3	7	12
NNW	1.3	2.3	8	14
N	1.0	2.2	0	0

LOCATION 12

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.2	2.7	2	2
NE	1.3	2.8	12	9
ENE	1.2	2.5	5	5
E	1.3	2.5	4	2
ESE	1.4	2.4	2	2
SE	1.1	2.4	0	0
SSE	.9	2.1	0	0
S	.7	1.9	0	0
SSW	1.0	2.2	0	0
SW	.6	1.6	0	0
WSW	.8	1.8	0	0
W	.9	2.2	2	2
WNW	1.0	2.7	23	23
NW	1.2	2.7	46	44
NNW	1.1	2.1	4	9
N	1.0	2.2	0	1

LOCATION 14

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.1	2.6	2	2
NE	1.1	2.8	17	12
ENE	.9	2.3	4	4
E	.9	2.4	3	2
ESE	1.6	2.7	24	21
SE	1.5	2.7	0	2
SSE	1.5	2.8	1	2
S	.9	2.3	1	2
SSW	1.0	2.3	0	1
SW	.5	1.8	0	0
WSW	.7	1.8	0	0
W	.8	2.1	1	1
WNW	1.1	2.3	34	32
NW	.8	2.2	6	10
NNW	1.0	2.2	5	9
N	1.0	2.1	0	1

TABLE E-264

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.5	2	2
NE	1.7	3.4	47	33
ENE	1.1	2.6	5	5
E	1.2	2.7	4	3
ESE	1.1	2.5	0	1
SE	1.2	2.8	0	0
SSE	.8	2.1	0	0
S	.9	2.4	0	0
SSW	1.0	2.4	0	0
SW	.3	1.7	0	0
WSW	.9	2.0	0	0
W	.8	2.3	0	0
WNW	1.2	2.4	30	30
NW	.8	2.4	1	3
NNW	1.1	2.6	6	12
N	1.4	3.5	4	10

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.4	0	0
NE	1.5	3.0	7	7
ENE	1.7	2.8	11	12
E	2.0	3.3	19	16
ESE	2.4	3.8	64	63
SE	1.8	3.2	0	1
SSE	1.1	2.4	0	0
S	.6	1.8	0	0
SSW	.7	1.9	0	0
SW	.6	1.6	0	0
WSW	.8	1.8	0	0
W	.8	1.9	0	0
WNW	.8	2.0	0	0
NW	.9	2.0	0	1
NNW	.9	2.0	0	0
N	1.0	2.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.9	0	0
NE	2.0	4.0	31	25
ENE	2.1	3.5	32	28
E	2.0	3.5	19	16
ESE	2.0	3.5	15	19
SE	1.5	3.0	0	0
SSE	1.0	2.8	0	0
S	.8	2.6	0	0
SSW	1.1	2.9	0	0
SW	.6	1.9	0	0
WSW	1.2	2.7	0	1
W	1.0	2.5	0	0
WNW	1.1	2.2	1	2
NW	1.1	2.6	1	4
NNW	1.2	3.0	1	4
N	1.4	3.5	0	1

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.4	0	0
NE	1.2	2.3	10	10
ENE	1.3	2.3	16	16
E	1.5	2.8	24	19
ESE	1.7	2.8	50	50
SE	1.2	2.4	0	0
SSE	.8	2.0	0	0
S	.1	1.6	0	0
SSW	.6	1.9	0	0
SW	.1	1.8	0	0
WSW	.1	1.9	0	0
W	.5	1.8	0	0
WNW	.5	2.0	0	0
NW	.8	2.3	0	2
NNW	.8	2.2	1	4
N	.9	1.8	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	3.0	0	0
NE	2.3	4.1	38	31
ENE	2.3	3.4	30	28
E	2.2	3.6	17	15
ESE	2.2	3.4	14	19
SE	1.7	3.2	0	0
SSE	1.2	2.8	0	0
S	.7	2.6	0	0
SSW	1.1	2.8	0	0
SW	.6	2.1	0	0
WSW	1.1	2.9	0	0
W	1.0	2.5	0	0
WNW	1.0	2.4	0	0
NW	1.2	2.8	1	3
NNW	1.3	3.2	1	4
N	1.2	2.9	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.5	0	0
NE	1.5	3.1	22	19
ENE	1.6	2.7	23	21
E	1.6	3.0	16	13
ESE	1.8	3.3	37	38
SE	1.1	2.7	0	0
SSE	1.1	2.4	0	0
S	.8	2.2	0	0
SSW	.9	2.3	0	0
SW	.5	1.6	0	0
WSW	.3	1.7	0	0
W	.4	1.7	0	0
WNW	.8	1.9	0	1
NW	.8	1.9	0	1
NNW	1.0	2.1	2	7
N	1.0	2.0	0	0

TABLE E-265

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.5	1	1
NE	1.7	3.4	45	30
ENE	1.1	2.6	6	6
E	1.2	2.7	5	3
ESE	1.1	2.5	1	1
SE	1.2	2.8	0	0
SSE	.8	2.1	0	0
S	.9	2.4	0	0
SSW	1.0	2.4	0	0
SW	.3	1.7	0	0
WSW	.9	2.0	0	0
W	.8	2.3	2	2
WNW	1.2	2.4	16	16
NW	.8	2.4	4	8
NNW	1.1	2.6	12	17
N	1.4	3.5	7	14

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.4	0	0
NE	1.5	3.0	16	14
ENE	1.7	2.8	12	12
E	2.0	3.3	20	16
ESE	2.4	3.8	53	52
SE	1.8	3.2	0	2
SSE	1.1	2.4	0	0
S	.6	1.8	0	0
SSW	.7	1.9	0	0
SW	.6	1.6	0	0
WSW	.8	1.8	0	0
W	.8	1.9	0	0
WNW	.8	2.0	0	0
NW	.9	2.0	0	2
NNW	.9	2.0	0	2
N	1.0	2.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.9	0	0
NE	2.0	4.0	40	29
ENE	2.1	3.5	23	20
E	2.0	3.5	15	11
ESE	2.0	3.5	11	13
SE	1.5	3.0	0	0
SSE	1.0	2.8	0	0
S	.8	2.6	0	0
SSW	1.1	2.9	0	0
SW	.6	1.9	0	0
WSW	1.2	2.7	1	1
W	1.0	2.5	1	2
WNW	1.1	2.2	1	1
NW	1.1	2.6	4	8
NNW	1.2	3.0	4	10
N	1.4	3.5	0	3

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.4	1	1
NE	1.2	2.3	16	13
ENE	1.3	2.3	13	12
E	1.5	2.8	21	15
ESE	1.7	2.8	38	35
SE	1.2	2.4	0	1
SSE	.8	2.0	0	0
S	.1	1.6	0	0
SSW	.6	1.9	0	0
SW	.1	1.8	0	0
WSW	.1	1.9	0	0
W	.5	1.8	0	0
WNW	.5	2.0	0	1
NW	.8	2.3	4	9
NNW	.9	2.2	7	14
N	.9	1.8	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	3.0	0	0
NE	2.3	4.1	43	32
ENE	2.3	3.4	21	19
E	2.2	3.6	14	11
ESE	2.2	3.4	10	12
SE	1.7	3.2	0	0
SSE	1.2	2.8	0	0
S	.7	2.6	0	0
SSW	1.1	2.8	0	0
SW	.6	2.1	0	0
WSW	1.1	2.9	0	0
W	1.0	2.5	0	1
WNW	1.0	2.4	0	1
NW	1.2	2.8	4	9
NNW	1.3	3.2	7	14
N	1.2	2.9	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.5	0	0
NE	1.5	3.1	30	24
ENE	1.6	2.7	18	17
E	1.6	3.0	16	13
ESE	1.8	3.3	32	33
SE	1.1	2.7	0	0
SSE	1.1	2.4	0	0
S	.8	2.2	0	0
SSW	.9	2.3	0	0
SW	.5	1.6	0	0
WSW	.3	1.7	0	0
W	.4	1.7	0	0
WNW	.8	1.9	1	2
NW	.8	1.9	0	2
NNW	1.0	2.1	2	8
N	1.0	2.0	0	0

TABLE E-266

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	3.1	0	0
NE	1.7	3.3	11	9
ENE	2.2	3.5	34	29
E	2.1	3.5	20	16
ESE	2.2	3.6	33	34
SE	1.6	3.2	0	0
SSE	1.2	2.7	0	0
S	.8	2.8	0	0
SSW	.9	2.5	0	0
SW	.6	2.0	0	0
WSW	1.1	2.8	0	0
W	1.1	2.7	0	0
WNW	1.1	2.4	0	1
NW	1.2	2.5	1	5
NNW	1.3	3.0	1	6
N	.9	2.5	0	0

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.4	0	0
NE	1.0	2.5	4	4
ENE	1.4	2.6	19	18
E	1.5	2.7	24	19
ESE	1.7	3.1	50	48
SE	1.0	2.5	0	0
SSE	.8	2.1	0	0
S	.5	2.1	0	0
SSW	1.0	2.1	0	0
SW	.5	1.3	0	0
WSW	.5	1.9	0	0
W	.5	1.6	0	0
WNW	.9	2.0	2	4
NW	.7	2.1	0	1
NNW	.9	2.1	1	5
N	.7	1.9	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.4	3.0	0	0
NE	2.0	3.5	30	24
ENE	2.1	3.4	32	27
E	1.9	3.2	14	11
ESE	2.0	3.4	16	19
SE	1.4	2.9	0	0
SSE	.9	2.6	0	0
S	.4	2.1	0	0
SSW	.7	2.3	0	0
SW	.5	2.0	0	0
WSW	1.1	2.8	0	0
W	1.2	2.8	1	1
WNW	1.2	2.6	4	6
NW	1.1	2.6	1	4
NNW	1.3	3.0	2	7
N	.7	2.3	0	0

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.5	0	0
NE	1.5	3.1	29	24
ENE	1.6	2.8	37	32
E	1.5	2.9	18	15
ESE	1.4	2.8	11	15
SE	.7	2.5	0	0
SSE	.8	2.2	0	0
S	.6	2.2	0	0
SSW	1.3	2.7	3	6
SW	.7	1.5	0	0
WSW	.7	1.8	0	0
W	.7	2.0	0	0
WNW	.9	1.9	2	4
NW	.6	1.7	0	0
NNW	.8	2.0	0	2
N	.1	2.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	3.2	0	0
NE	1.0	2.2	1	1
ENE	1.2	2.5	6	6
E	1.4	2.5	9	7
ESE	1.7	3.0	36	33
SE	1.3	2.9	0	0
SSE	1.1	2.7	0	0
S	.7	2.4	0	0
SSW	.9	2.2	0	0
SW	.5	1.4	0	0
WSW	.9	2.2	0	0
W	1.2	2.4	12	12
WNW	1.2	2.2	35	36
NW	.9	2.3	1	3
NNW	.7	2.2	0	0
N	.7	1.9	0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.8	3	2
NE	.8	2.4	3	3
ENE	.8	2.1	2	2
E	1.1	2.2	9	7
ESE	1.3	2.6	35	32
SE	1.0	2.3	0	0
SSE	.9	2.2	0	0
S	.4	2.0	0	0
SSW	1.0	2.2	1	2
SW	.6	1.4	0	0
WSW	.7	1.8	0	0
W	.8	1.9	3	3
WNW	1.0	2.6	43	44
NW	.6	1.8	0	1
NNW	.7	1.9	1	4
N	.8	1.9	0	0

TABLE E-267

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	3.1	1	1
NE	1.7	3.3	17	14
ENE	2.2	3.5	26	22
E	2.1	3.5	16	12
ESE	2.2	3.6	22	22
SE	1.6	3.2	0	1
SSE	1.2	2.7	0	0
S	.8	2.8	0	0
SSW	.9	2.5	0	0
SW	.6	2.0	0	0
WSW	1.1	2.8	1	1
W	1.1	2.7	3	4
WNW	1.1	2.4	2	3
NW	1.2	2.5	3	7
NNW	1.3	3.0	8	15
N	.9	2.5	0	0

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.4	0	0
NE	1.0	2.5	9	7
ENE	1.4	2.6	15	13
E	1.5	2.7	19	14
ESE	1.7	3.1	40	36
SE	1.0	2.5	0	0
SSE	.8	2.1	0	0
S	.5	2.1	0	0
SSW	1.0	2.1	0	1
SW	.5	1.3	0	0
WSW	.5	1.9	0	0
W	.5	1.6	0	0
WNW	.9	2.0	7	9
NW	.7	2.1	4	8
NNW	.9	2.1	6	12
N	.7	1.9	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.4	3.0	2	1
NE	2.0	3.5	26	21
ENE	2.1	3.4	22	18
E	1.9	3.2	10	7
ESE	2.0	3.4	9	10
SE	1.4	2.9	0	0
SSE	.9	2.6	0	0
S	.4	2.1	0	0
SSW	.7	2.3	0	0
SW	.5	2.0	0	0
WSW	1.1	2.8	1	1
W	1.2	2.8	5	5
WNW	1.2	2.6	7	9
NW	1.1	2.6	4	9
NNW	1.3	3.0	11	17
N	.7	2.3	0	0

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.5	1	1
NE	1.5	3.1	33	26
ENE	1.6	2.8	27	24
E	1.5	2.9	17	14
ESE	1.4	2.8	13	16
SE	.7	2.5	0	0
SSE	.8	2.2	0	0
S	.6	2.2	0	1
SSW	1.3	2.7	3	6
SW	.7	1.5	0	0
WSW	.7	1.8	0	0
W	.7	2.0	0	0
WNW	.9	1.9	4	6
NW	.6	1.7	0	1
NNW	.8	2.0	0	3
N	.1	2.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	3.2	5	4
NE	1.0	2.2	4	3
ENE	1.2	2.5	8	7
E	1.4	2.5	7	5
ESE	1.7	3.0	31	27
SE	1.3	2.9	0	1
SSE	1.1	2.7	0	0
S	.7	2.4	0	0
SSW	.9	2.2	0	0
SW	.5	1.4	0	0
WSW	.9	2.2	1	1
W	1.2	2.4	14	14
WNW	1.2	2.2	24	25
NW	.9	2.3	5	9
NNW	.7	2.2	1	4
N	.7	1.9	0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.8	5	4
NE	.8	2.4	5	4
ENE	.8	2.1	3	3
E	1.1	2.2	7	5
ESE	1.3	2.6	25	22
SE	1.0	2.3	0	1
SSE	.9	2.2	0	0
S	.4	2.0	0	0
SSW	1.0	2.2	1	2
SW	.6	1.4	0	0
WSW	.7	1.8	0	0
W	.8	1.9	1	1
WNW	1.0	2.6	49	46
NW	.6	1.8	1	3
NNW	.7	1.9	3	8
N	.8	1.9	0	0

TABLE E-268

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.0	0	0
NE	.6	1.7	0	0
ENE	.5	1.4	0	0
E	.6	1.8	0	0
ESE	.6	1.6	0	0
SE	.1	1.3	0	0
SSE	.6	1.3	0	0
S	.6	1.4	0	0
SSW	.6	1.8	0	0
SW	.8	2.5	1	4
WSW	1.0	2.2	6	8
W	.8	2.3	4	3
WNW	.9	2.2	13	12
NW	1.0	2.7	34	33
NNW	1.1	2.5	42	38
N	1.0	2.2	0	2

LOCATION 22

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.1	2	2
NE	.5	1.9	0	0
ENE	.6	2.4	1	2
E	.9	2.5	11	8
ESE	.8	2.0	2	3
SE	.1	1.5	0	0
SSE	.1	1.4	0	0
S	.4	1.6	0	0
SSW	.3	1.5	0	0
SW	.6	1.8	0	3
WSW	.1	1.7	0	0
W	.1	2.3	0	0
WNW	.5	1.8	0	0
NW	.7	2.0	15	21
NNW	.9	2.5	68	61
N	.6	2.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 21

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.4	4.0	33	25
NE	1.9	3.3	33	26
ENE	1.8	2.9	20	19
E	1.5	2.8	4	3
ESE	1.5	2.8	2	3
SE	1.0	2.5	0	0
SSE	1.1	2.7	0	0
S	.9	2.4	0	0
SSW	1.5	2.7	0	2
SW	.7	1.9	0	0
WSW	1.0	2.5	0	0
W	1.2	2.9	3	4
WNW	1.1	2.6	1	2
NW	1.2	2.9	4	9
NNW	1.2	3.0	1	5
N	1.2	2.9	0	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.3	3.1	14	9
NE	1.3	3.0	37	26
ENE	.9	2.6	4	4
E	.7	2.4	0	0
ESE	.7	2.2	0	0
SE	.3	1.8	0	0
SSE	.5	2.1	0	0
S	.5	1.7	0	0
SSW	.8	2.1	0	0
SW	.5	1.2	0	0
WSW	.4	2.0	0	0
W	.4	2.1	0	0
WNW	.8	2.4	10	11
NW	.9	2.3	10	15
NNW	1.0	2.8	18	23
N	1.2	3.2	5	11

LOCATION 23

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.0	3.7	10	7
NE	2.0	3.3	28	21
ENE	1.8	3.2	16	15
E	1.4	3.0	1	1
ESE	1.1	2.6	0	0
SE	1.3	3.0	0	0
SSE	1.3	3.1	0	0
S	.9	2.7	0	0
SSW	1.6	3.1	0	1
SW	.7	1.8	0	0
WSW	1.2	2.9	0	0
W	1.3	3.0	3	3
WNW	1.5	3.4	31	32
NW	1.3	2.8	4	9
NNW	1.4	3.0	5	10
N	1.0	2.9	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 21

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.4	4.4	36	26
NE	1.9	3.5	36	28
ENE	1.6	2.8	13	13
E	1.3	3.0	2	1
ESE	1.2	2.7	0	0
SE	1.3	2.6	0	0
SSE	1.3	2.7	0	0
S	1.1	2.4	0	0
SSW	1.7	2.7	4	7
SW	.8	1.8	0	0
WSW	.8	2.2	0	0
W	.9	2.8	0	0
WNW	.8	2.2	0	0
NW	1.0	2.3	1	3
NNW	1.3	2.8	7	15
N	1.6	3.1	1	5

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 23

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.8	3.6	10	7
NE	1.9	3.4	40	29
ENE	1.6	3.4	14	13
E	1.1	2.7	1	0
ESE	1.4	3.4	1	2
SE	1.3	3.1	0	0
SSE	1.5	3.0	0	1
S	1.1	2.7	0	0
SSW	1.8	3.1	11	11
SW	.7	1.7	0	0
WSW	.9	2.2	0	0
W	1.1	2.9	2	2
WNW	1.2	2.5	7	9
NW	1.2	2.4	11	17
NNW	1.1	2.3	2	7
N	1.0	2.3	0	0

TABLE E-269

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.0	0	0
NE	.6	1.7	0	0
ENE	.5	1.4	0	0
E	.6	1.8	0	0
ESE	.6	1.6	0	0
SE	.1	1.3	0	0
SSE	.6	1.3	0	0
S	.6	1.4	0	0
SSW	.6	1.8	0	0
SW	.8	2.5	5	10
WSW	1.0	2.2	4	4
W	.8	2.3	8	7
WNW	.9	2.2	14	12
NW	1.0	2.7	42	38
NNW	1.1	2.5	27	27
N	1.0	2.2	0	1

LOCATION 22

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	2.1	2	2
NE	.5	1.9	2	2
ENE	.6	2.4	7	7
E	.9	2.5	11	8
ESE	.8	2.0	1	2
SE	.1	1.5	0	0
SSE	.1	1.4	0	0
S	.4	1.6	0	0
SSW	.3	1.5	0	0
SW	.6	1.8	0	0
WSW	.1	1.7	0	0
W	.1	2.3	11	11
WNW	.5	1.8	0	1
NW	.7	2.0	9	14
NNW	.9	2.5	57	53
N	.6	2.1	0	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 21

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.4	4.0	22	15
NE	1.9	3.3	20	15
ENE	1.8	2.9	9	9
E	1.5	2.8	2	1
ESE	1.5	2.8	1	1
SE	1.0	2.5	0	0
SSE	1.1	2.7	0	0
S	.9	2.4	0	0
SSW	1.5	2.7	0	1
SW	.7	1.9	0	0
WSW	1.0	2.5	0	0
W	1.2	2.9	12	12
WNW	1.1	2.6	8	9
NW	1.2	2.9	16	20
NNW	1.2	3.0	9	15
N	1.2	2.9	0	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.3	3.1	8	6
NE	1.3	3.0	27	19
ENE	.9	2.6	5	5
E	.7	2.4	1	1
ESE	.7	2.2	0	0
SE	.3	1.8	0	0
SSE	.5	2.1	0	0
S	.5	1.7	0	0
SSW	.8	2.1	0	0
SW	.5	1.2	0	0
WSW	.4	2.0	0	0
W	.4	2.1	0	0
WNW	.8	2.4	27	26
NW	.9	2.3	10	14
NNW	1.0	2.8	17	21
N	1.2	3.2	3	8

LOCATION 23

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.0	3.7	7	5
NE	2.0	3.3	17	12
ENE	1.8	3.2	9	9
E	1.4	3.0	2	1
ESE	1.1	2.6	0	0
SE	1.2	3.0	0	0
SSE	1.3	3.1	0	0
S	.9	2.7	0	0
SSW	1.6	3.1	0	1
SW	.7	1.8	0	0
WSW	1.2	2.9	0	1
W	1.3	3.0	7	7
WNW	1.5	3.4	45	42
NW	1.3	2.8	6	10
NNW	1.4	3.0	7	12
N	1.0	2.9	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 21

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	2.4	4.4	31	22
NE	1.9	3.5	30	22
ENE	1.6	2.8	9	9
E	1.3	3.0	4	3
ESE	1.2	2.7	0	1
SE	1.3	2.6	0	0
SSE	1.3	2.7	0	0
S	1.1	2.4	0	1
SSW	1.7	2.7	2	3
SW	.8	1.8	0	0
WSW	.8	2.2	0	0
W	.9	2.8	6	6
WNW	.8	2.2	1	1
NW	1.0	2.3	3	6
NNW	1.3	2.8	12	19
N	1.6	3.1	1	6

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 23

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.8	3.6	9	6
NE	1.9	3.4	30	22
ENE	1.6	3.4	15	13
E	1.1	2.7	2	1
ESE	1.4	3.4	7	7
SE	1.3	3.1	0	0
SSE	1.5	3.0	0	1
S	1.1	2.7	1	2
SSW	1.8	3.1	5	6
SW	.7	1.7	0	0
WSW	.9	2.2	0	0
W	1.1	2.9	7	7
WNW	1.2	2.5	15	16
NW	1.2	2.4	7	12
NNW	1.1	2.3	2	5
N	1.0	2.3	0	0

TABLE E-270

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.8	0	0
NE	1.5	3.2	10	8
ENE	1.8	3.3	27	23
E	1.7	3.1	14	11
ESE	1.6	3.3	6	8
SE	1.0	2.6	0	0
SSE	.1	2.5	0	0
S	.1	2.0	0	0
SSW	.9	2.4	0	0
SW	.6	1.8	0	0
WSW	1.4	2.9	3	5
W	1.5	3.0	32	33
WNW	1.2	2.7	7	10
NW	.8	2.0	0	0
NNW	.8	2.4	0	0
N	.1	1.8	0	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.3	0	0
NE	.7	2.2	0	0
ENE	1.2	2.8	8	7
E	1.5	2.7	14	10
ESE	.8	2.2	0	0
SE	.6	2.1	0	0
SSE	.6	2.4	0	0
S	.6	2.6	0	0
SSW	1.3	2.8	2	3
SW	.9	1.8	0	2
WSW	1.3	2.9	9	13
W	1.4	2.6	52	48
WNW	1.1	2.1	15	16
NW	.7	1.9	0	0
NNW	.8	2.1	0	1
N	.5	1.8	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.9	0	0
NE	.9	2.8	1	1
ENE	1.7	3.4	38	32
E	1.0	2.5	1	1
ESE	.4	2.3	0	0
SE	.1	2.1	0	0
SSE	.5	2.1	0	0
S	1.0	2.7	0	1
SSW	1.8	3.4	34	29
SW	.8	1.9	0	1
WSW	1.3	2.9	7	12
W	1.2	2.8	19	22
WNW	.4	2.3	0	0
NW	.8	2.2	0	2
NNW	.6	2.1	0	0
N	.1	1.6	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.2	0	0
NE	1.1	3.0	11	10
ENE	1.5	2.9	37	32
E	1.4	2.8	19	16
ESE	1.4	2.9	26	29
SE	.6	2.4	0	0
SSE	.6	2.1	0	0
S	.5	2.2	0	0
SSW	1.0	2.6	0	1
SW	.6	1.6	0	0
WSW	.8	1.8	0	0
W	.8	2.1	1	2
WNW	.8	1.9	4	7
NW	.4	1.6	0	0
NNW	.7	2.0	0	2
N	.8	1.8	0	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.1	2	1
NE	.8	2.3	3	2
ENE	.9	2.2	6	6
E	1.1	2.5	11	8
ESE	.5	2.2	0	0
SE	.1	2.0	0	0
SSE	.9	2.3	0	0
S	1.1	2.5	8	8
SSW	1.4	2.6	33	25
SW	.7	1.7	0	2
WSW	.8	1.9	0	0
W	.8	1.9	2	3
WNW	.9	1.9	31	32
NW	.6	1.9	0	1
NNW	.8	2.2	5	10
N	.9	1.8	0	2

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.6	0	0
NE	.1	1.9	0	0
ENE	1.4	2.9	23	24
E	.9	2.4	1	1
ESE	.6	2.4	0	0
SE	.1	2.2	0	0
SSE	.8	2.7	0	0
S	1.3	2.9	12	18
SSW	1.8	3.1	66	54
SW	.7	1.8	0	1
WSW	.8	1.9	0	0
W	.7	1.8	0	0
WNW	.5	1.6	0	0
NW	.1	1.8	0	0
NNW	.7	1.8	0	1
N	.6	1.5	0	0

TABLE E-271

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.8	0	0
NE	1.5	3.2	17	14
ENE	1.8	3.3	20	17
E	1.7	3.1	9	7
ESE	1.6	3.3	6	8
SE	1.0	2.6	0	0
SSE	.1	2.5	0	0
S	.1	2.0	0	0
SSW	.9	2.4	0	0
SW	.6	1.8	0	0
WSW	1.4	2.9	3	5
W	1.5	3.0	28	28
WNW	1.2	2.7	16	18
NW	.8	2.0	0	1
NNW	.8	2.4	0	2
N	.1	1.8	0	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.3	0	0
NE	.7	2.2	1	1
ENE	1.2	2.8	9	8
E	1.5	2.7	14	9
ESE	.8	2.2	1	1
SE	.6	2.1	0	0
SSE	.6	2.4	0	0
S	.6	2.6	1	1
SSW	1.3	2.8	5	6
SW	.9	1.8	0	0
WSW	1.3	2.9	10	14
W	1.4	2.6	42	38
WNW	1.1	2.1	17	17
NW	.7	1.9	1	2
NNW	.8	2.1	0	2
N	.5	1.8	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.9	0	0
NE	.9	2.8	6	5
ENE	1.7	3.4	37	29
E	1.0	2.5	1	1
ESE	.4	2.3	0	0
SE	.1	2.1	0	0
SSE	.5	2.1	0	0
S	1.0	2.7	2	3
SSW	1.8	3.4	18	16
SW	.8	1.9	0	1
WSW	1.3	2.9	7	11
W	1.2	2.8	27	27
WNW	.4	2.3	0	1
NW	.8	2.2	1	4
NNW	.6	2.1	0	1
N	.1	1.6	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.2	0	0
NE	1.1	3.0	24	19
ENE	1.5	2.9	29	25
E	1.4	2.8	18	14
ESE	1.4	2.9	21	24
SE	.6	2.4	0	0
SSE	.6	2.1	0	0
S	.5	2.2	0	0
SSW	1.0	2.6	1	4
SW	.6	1.6	0	0
WSW	.8	1.8	0	0
W	.8	2.1	2	3
WNW	.8	1.9	4	6
NW	.4	1.6	0	0
NNW	.7	2.0	0	3
N	.8	1.8	0	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.1	1	1
NE	.8	2.3	4	3
ENE	.9	2.2	9	8
E	1.1	2.5	21	14
ESE	.5	2.2	1	2
SE	.1	2.0	0	0
SSE	.9	2.3	0	1
S	1.1	2.5	13	13
SSW	1.4	2.6	19	16
SW	.7	1.7	0	1
WSW	.8	1.9	0	1
W	.8	1.9	1	2
WNW	.9	1.9	17	18
NW	.6	1.9	2	5
NNW	.8	2.2	10	15
N	.9	1.8	0	1

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.6	0	0
NE	.1	1.9	0	0
ENE	1.4	2.9	33	29
E	.9	2.4	3	3
ESE	.6	2.4	0	1
SE	.1	2.2	0	0
SSE	.8	2.7	0	1
S	1.3	2.9	26	29
SSW	1.8	3.1	36	31
SW	.7	1.8	1	4
WSW	.8	1.9	0	1
W	.7	1.8	0	0
WNW	.5	1.6	0	0
NW	.1	1.8	0	0
NNW	.7	1.8	0	2
N	.6	1.5	0	0

TABLE E-272

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.2	0	0
NE	1.0	2.2	1	1
ENE	.7	2.2	0	0
E	1.3	2.7	4	2
ESE	1.5	2.8	8	8
SE	1.5	2.7	0	1
SSE	.8	2.3	0	0
S	.9	2.5	0	0
SSW	.9	2.6	0	0
SW	1.1	3.1	2	5
WSW	1.4	3.1	8	10
W	1.3	2.8	14	12
WNW	1.3	2.7	27	23
NW	1.3	2.6	30	29
NNW	1.2	2.5	6	10
N	.6	1.6	0	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.1	3.5	12	9
NE	2.1	3.5	33	24
ENE	1.7	3.5	10	10
E	1.3	2.9	0	0
ESE	.7	2.7	0	0
SE	.9	2.9	0	0
SSE	1.1	2.8	0	0
S	1.1	3.0	0	0
SSW	1.6	3.3	0	1
SW	.9	2.1	0	0
WSW	1.4	2.9	1	2
W	1.8	3.9	33	33
WNW	1.3	3.4	5	7
NW	1.2	2.9	2	6
NNW	1.0	3.1	0	1
N	1.8	3.5	2	7

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.0	3.4	18	14
NE	1.9	3.6	42	31
ENE	1.6	3.5	15	14
E	1.0	2.8	0	0
ESE	.8	2.9	0	0
SE	1.5	3.5	0	0
SSE	1.6	3.4	0	1
S	1.3	3.1	1	2
SSW	1.7	3.3	7	9
SW	.7	1.8	0	0
WSW	.9	2.2	0	0
W	1.1	2.3	1	1
WNW	1.2	2.8	13	17
NW	1.1	2.4	2	6
NNW	.8	2.4	0	0
N	1.4	3.1	0	4

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.5	3.1	10	7
NE	1.4	2.9	30	22
ENE	1.1	2.6	6	6
E	.6	1.8	0	0
ESE	1.1	2.2	1	1
SE	.9	2.1	0	0
SSE	.9	2.2	0	0
S	.7	2.1	0	0
SSW	.9	2.3	0	0
SW	.4	1.6	0	0
WSW	.5	2.2	0	0
W	.6	2.3	0	0
WNW	.8	2.4	1	1
NW	.8	1.9	1	3
NNW	1.3	2.5	40	41
N	1.6	2.9	12	20

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.2	3.3	12	9
NE	2.4	3.6	51	37
ENE	1.8	3.1	10	10
E	.6	1.8	0	0
ESE	1.2	2.8	0	0
SE	1.8	3.2	0	1
SSE	2.1	3.7	1	2
S	1.9	3.2	10	12
SSW	2.1	3.2	8	10
SW	.7	1.8	0	0
WSW	.7	1.6	0	0
W	.8	1.9	0	0
WNW	.7	2.0	0	0
NW	.7	1.8	0	0
NNW	1.3	2.4	2	7
N	2.0	3.0	4	11

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.1	3.4	12	9
NE	2.4	3.7	57	41
ENE	1.7	3.0	7	8
E	.7	2.0	0	0
ESE	1.3	2.8	0	0
SE	2.0	3.4	0	2
SSE	2.1	3.4	1	2
S	1.8	3.0	6	8
SSW	1.8	2.8	2	4
SW	.5	1.6	0	0
WSW	.5	1.4	0	0
W	.6	1.6	0	0
WNW	.8	2.0	0	0
NW	.8	1.9	0	0
NNW	1.6	2.4	10	17
N	1.9	2.9	3	9

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.2	2	1
NE	1.0	2.3	14	9
ENE	.7	2.0	1	1
E	.6	1.7	0	0
ESE	1.1	2.2	11	9
SE	1.0	2.2	0	0
SSE	1.1	2.2	0	1
S	1.0	2.3	4	3
SSW	.8	2.1	0	0
SW	.8	2.0	2	5
WSW	.7	2.0	0	0
W	.7	2.2	1	1
WNW	.8	2.3	10	9
NW	.9	2.1	18	19
NNW	1.0	2.2	31	29
N	1.2	2.4	6	10

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.0	0	0
NE	.9	2.3	1	1
ENE	1.4	3.0	14	13
E	1.2	2.9	4	3
ESE	1.5	3.3	15	15
SE	1.8	3.3	2	5
SSE	1.8	3.4	3	3
S	1.5	3.0	14	15
SSW	1.8	3.1	30	23
SW	.9	1.8	0	2
WSW	1.2	2.5	4	7
W	1.2	2.5	13	13
WNW	.7	1.9	0	0
NW	.4	1.8	0	0
NNW	.5	2.0	0	0
N	.5	1.9	0	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.1	0	0
NE	1.1	2.4	4	3
ENE	1.2	2.7	8	8
E	1.3	2.8	9	6
ESE	1.6	3.3	33	30
SE	1.9	3.6	4	8
SSE	1.8	3.3	4	4
S	1.5	2.9	21	20
SSW	1.6	2.7	15	14
SW	.7	2.0	0	0
WSW	.8	2.1	0	0
W	.6	1.8	0	0
WNW	.7	2.1	0	0
NW	.8	1.9	0	2
NNW	.9	2.2	1	5
N	.7	1.9	0	0

TABLE E-273

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.2	0	0
NE	1.0	2.2	1	1
ENE	.7	2.2	0	0
E	1.3	2.7	3	2
ESE	1.5	2.8	3	3
SE	1.5	2.7	0	0
SSE	.8	2.3	0	0
S	.9	2.5	0	0
SSW	.9	2.6	0	0
SW	1.1	3.1	15	20
WSW	1.4	3.1	11	12
W	1.3	2.8	20	15
WNW	1.3	2.7	22	18
NW	1.3	2.6	19	19
NNW	1.2	2.5	6	10
N	.6	1.6	0	0

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.1	3.5	4	3
NE	2.1	3.5	17	12
ENE	1.7	3.5	6	6
E	1.3	2.9	1	0
ESE	.7	2.7	0	0
SE	.9	2.9	0	0
SSE	1.1	2.8	0	0
S	1.1	3.0	0	0
SSW	1.6	3.3	0	1
SW	.9	2.1	0	0
WSW	1.4	2.9	1	1
W	1.8	3.9	39	35
WNW	1.3	3.4	27	26
NW	1.2	2.9	4	7
NNW	1.0	3.1	1	5
N	1.8	3.5	1	3

LOCATION 27

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.0	3.4	12	9
NE	1.9	3.6	34	25
ENE	1.6	3.5	18	16
E	1.0	2.8	2	1
ESE	.8	2.9	1	1
SE	1.5	3.5	0	1
SSE	1.6	3.4	1	1
S	1.3	3.1	3	4
SSW	1.7	3.3	5	6
SW	.7	1.8	0	0
WSW	.9	2.2	0	0
W	1.1	2.3	2	3
WNW	1.2	2.8	17	19
NW	1.1	2.4	4	9
NNW	.8	2.4	0	1
N	1.4	3.1	1	3

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.5	3.1	13	9
NE	1.4	2.9	28	20
ENE	1.1	2.6	11	10
E	.6	1.8	0	0
ESE	1.1	2.2	1	1
SE	.9	2.1	0	0
SSE	.9	2.2	0	0
S	.7	2.1	0	0
SSW	.9	2.3	0	0
SW	.4	1.6	0	0
WSW	.5	2.2	0	0
W	.6	2.3	2	2
WNW	.8	2.4	11	12
NW	.8	1.9	1	3
NNW	1.3	2.5	25	28
N	1.6	2.9	8	15

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.2	3.3	9	7
NE	2.4	3.6	47	34
ENE	1.8	3.1	18	16
E	.6	1.8	0	0
ESE	1.2	2.8	1	1
SE	1.8	3.2	0	2
SSE	2.1	3.7	2	2
S	1.9	3.2	12	13
SSW	2.1	3.2	7	9
SW	.7	1.8	0	0
WSW	.7	1.6	0	0
W	.6	1.9	0	0
WNW	.7	2.0	0	0
NW	.7	1.8	0	0
NNW	1.3	2.4	3	8
N	2.0	3.0	2	8

LOCATION 28

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.1	3.4	10	7
NE	2.4	3.7	56	40
ENE	1.7	3.0	14	13
E	.7	2.0	0	0
ESE	1.3	2.8	1	2
SE	2.0	3.4	1	3
SSE	2.1	3.4	1	2
S	1.8	3.0	8	9
SSW	1.8	2.8	1	3
SW	.5	1.6	0	0
WSW	.5	1.4	0	0
W	.6	1.6	0	0
WNW	.8	2.0	0	0
NW	.8	1.9	0	1
NNW	1.6	2.4	6	13
N	1.9	2.9	2	6

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.2	1	1
NE	1.0	2.3	12	8
ENE	.7	2.0	2	2
E	.6	1.7	0	0
ESE	1.1	2.2	4	4
SE	1.0	2.2	0	0
SSE	1.1	2.2	0	0
S	1.0	2.3	2	2
SSW	.8	2.1	0	0
SW	.8	2.0	0	1
WSW	.7	2.0	1	1
W	.7	2.2	10	8
WNW	.8	2.3	23	20
NW	.9	2.1	12	15
NNW	1.0	2.2	29	29
N	1.2	2.4	2	6

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.0	0	0
NE	.9	2.3	3	3
ENE	1.4	3.0	17	15
E	1.2	2.9	8	5
ESE	1.5	3.3	19	19
SE	1.8	3.3	1	4
SSE	1.8	3.4	2	3
S	1.5	3.0	12	12
SSW	1.8	3.1	14	14
SW	.9	1.8	0	0
WSW	1.2	2.5	3	5
W	1.2	2.5	20	19
WNW	.7	1.9	1	1
NW	.4	1.8	0	0
NNW	.5	2.0	0	0
N	.5	1.9	0	0

LOCATION 29

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.1	0	0
NE	1.1	2.4	6	5
ENE	1.2	2.7	13	12
E	1.3	2.8	13	9
ESE	1.6	3.3	36	32
SE	1.9	3.6	3	7
SSE	1.8	3.3	3	3
S	1.5	2.9	13	13
SSW	1.6	2.7	7	8
SW	.7	2.0	0	0
WSW	.8	2.1	0	0
W	.6	1.8	0	0
WNW	.7	2.1	4	5
NW	.8	1.9	1	3
NNW	.9	2.2	1	3
N	.7	1.9	0	0

TABLE E-274

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 30

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.5	2.7	4	3
NE	1.5	2.8	13	10
ENE	1.3	2.6	5	5
E	1.4	2.8	3	2
ESE	1.4	2.6	2	2
SE	1.0	2.3	0	0
SSE	1.2	2.7	0	0
S	1.1	2.6	0	0
SSW	1.6	3.0	5	5
SW	.9	2.3	0	0
WSW	1.2	2.6	1	2
W	1.5	3.4	42	37
WNW	1.1	2.4	8	8
NW	.9	2.2	0	1
NNW	1.3	2.5	14	19
N	1.5	2.7	2	6

LOCATION 31

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.5	2.7	2	2
NE	1.5	2.5	12	10
ENE	1.6	2.8	15	13
E	.7	1.9	0	0
ESE	.6	1.7	0	0
SE	1.3	2.4	0	0
SSE	1.2	2.3	0	0
S	1.1	2.0	0	0
SSW	1.1	2.1	0	0
SW	1.1	2.3	2	6
WSW	.9	2.0	0	0
W	1.0	2.4	1	1
WNW	1.5	3.4	69	68
NW	.1	1.8	0	0
NNW	.7	1.8	0	0
N	.8	2.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.2	0	0
NE	1.0	2.3	1	1
ENE	.8	1.9	0	0
E	.7	2.1	0	0
ESE	.9	1.8	0	0
SE	1.0	2.2	0	0
SSE	1.0	2.2	0	0
S	.9	2.2	0	0
SSW	1.1	2.2	0	0
SW	.6	2.1	0	0
WSW	.8	1.8	0	0
W	.6	2.3	0	0
WNW	1.5	3.2	101	98
NW	.7	2.0	0	0
NNW	.8	2.0	0	1
N	.9	2.0	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 30

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.5	2.9	6	4
NE	1.4	3.2	15	10
ENE	1.0	2.5	1	1
E	.9	2.4	0	0
ESE	1.1	2.4	0	0
SE	1.3	3.2	0	0
SSE	1.4	3.2	0	1
S	1.4	2.9	6	5
SSW	1.6	2.9	8	8
SW	.7	2.2	0	0
WSW	1.0	2.3	0	0
W	.8	1.9	0	0
WNW	.9	2.6	1	2
NW	1.3	3.2	31	31
NNW	1.4	3.0	30	31
N	1.5	2.8	3	7

LOCATION 31

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.6	2.8	0	0
NE	1.7	3.0	7	5
ENE	1.6	2.8	3	3
E	.6	2.0	0	0
ESE	.9	1.8	0	0
SE	1.5	2.5	0	0
SSE	1.7	2.8	0	0
S	1.5	2.9	0	1
SSW	1.4	2.7	0	0
SW	1.5	3.2	3	7
WSW	1.2	2.7	0	0
W	1.5	3.3	3	3
WNW	1.9	4.2	71	63
NW	1.6	2.8	12	16
NNW	1.3	2.6	0	2
N	.7	2.1	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.2	0	0
NE	1.0	2.3	1	1
ENE	.8	2.0	0	0
E	.5	2.0	0	0
ESE	1.2	2.4	0	0
SE	1.4	2.5	0	0
SSE	1.5	2.9	0	0
S	1.2	2.5	0	0
SSW	1.0	2.4	0	0
SW	1.0	2.9	0	2
WSW	1.0	2.3	0	0
W	1.9	3.8	40	37
WNW	1.6	3.3	33	32
NW	1.6	2.7	27	30
NNW	1.2	2.5	0	2
N	.6	2.3	0	0

TABLE E-275

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 30

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.5	2.7	1	1
NE	1.5	2.8	10	7
ENE	1.3	2.6	4	4
E	1.4	2.8	4	2
ESE	1.4	2.6	0	1
SE	1.0	2.3	0	0
SSE	1.2	2.7	0	0
S	1.1	2.6	0	0
SSW	1.6	3.0	2	3
SW	.9	2.3	1	2
WSW	1.2	2.6	1	2
W	1.5	3.4	61	53
WNW	1.1	2.4	8	8
NW	.9	2.2	1	2
NNW	1.3	2.5	7	12
N	1.5	2.7	0	2

LOCATION 31

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.5	2.7	1	1
NE	1.5	2.5	4	4
ENE	1.6	2.8	7	7
E	.7	1.9	0	0
ESE	.8	1.7	0	0
SE	1.3	2.4	0	0
SSE	1.2	2.3	0	0
S	1.1	2.0	0	0
SSW	1.1	2.1	0	0
SW	1.1	2.3	1	3
WSW	.9	2.0	0	0
W	1.0	2.4	1	2
WNW	1.5	3.4	86	83
NW	.1	1.8	0	0
NNW	.7	1.8	0	0
N	.8	2.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.2	0	0
NE	1.0	2.3	1	1
ENE	.8	1.9	0	0
E	.7	2.1	0	0
ESE	.9	1.8	0	0
SE	1.0	2.2	0	0
SSE	1.0	2.2	0	0
S	.9	2.2	0	0
SSW	1.1	2.2	0	0
SW	.6	2.1	0	0
WSW	.8	1.8	0	0
W	.6	2.3	0	0
WNW	1.5	3.2	99	96
NW	.7	2.0	0	1
NNW	.8	2.0	0	1
N	.9	2.0	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 30

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.5	2.9	2	1
NE	1.4	3.2	14	10
ENE	1.0	2.5	2	2
E	.9	2.4	0	0
ESE	1.1	2.4	0	0
SE	1.3	3.2	0	0
SSE	1.4	3.2	0	1
S	1.4	2.9	2	3
SSW	1.6	2.9	2	3
SW	.7	2.2	0	0
WSW	1.0	2.3	0	0
W	.8	1.9	0	0
WNW	.9	2.6	7	7
NW	1.3	3.2	46	42
NNW	1.4	3.0	23	26
N	1.5	2.8	1	4

LOCATION 31

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.6	2.8	0	0
NE	1.7	3.0	2	2
ENE	1.6	2.8	1	1
E	.6	2.0	0	0
ESE	.9	1.8	0	0
SE	1.5	2.5	0	0
SSE	1.7	2.8	0	0
S	1.5	2.9	0	0
SSW	1.4	2.7	0	0
SW	1.5	3.2	3	7
WSW	1.2	2.7	0	0
W	1.5	3.3	8	8
WNW	1.9	4.2	80	71
NW	1.6	2.8	5	8
NNW	1.3	2.6	0	2
N	.7	2.1	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.7	2.2	0	0
NE	1.0	2.3	0	0
ENE	.8	2.0	0	0
E	.5	2.0	0	0
ESE	1.2	2.4	0	0
SE	1.4	2.5	0	0
SSE	1.5	2.9	0	0
S	1.2	2.5	0	0
SSW	1.0	2.4	0	0
SW	1.0	2.9	0	2
WSW	1.0	2.3	0	0
W	1.9	3.8	47	42
WNW	1.6	3.3	38	35
NW	1.6	2.7	15	18
NNW	1.2	2.5	0	2
N	.6	2.3	0	0

TABLE E-276

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.4	3.1	6	4
NE	1.5	3.0	25	17
ENE	1.4	3.1	16	13
E	.7	2.1	0	0
ESE	1.1	2.4	1	1
SE	1.1	3.0	0	0
SSE	1.0	2.6	0	0
S	.8	2.4	0	0
SSW	1.1	2.6	0	0
SW	.3	1.8	0	0
WSW	.7	2.2	0	0
W	.7	1.8	0	0
WNW	1.0	2.1	5	6
NW	1.1	2.1	12	15
NNW	1.3	2.4	29	31
N	1.5	2.8	5	11

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.4	2.6	2	1
NE	1.4	2.8	8	6
ENE	1.3	2.8	4	4
E	.9	2.3	0	0
ESE	2.2	3.9	77	64
SE	2.2	3.6	3	7
SSE	1.7	3.1	1	1
S	1.2	2.6	0	1
SSW	1.5	3.3	2	3
SW	.6	1.5	0	0
WSW	.5	1.3	0	0
W	.4	1.2	0	0
WNW	1.0	2.1	1	1
NW	1.1	1.9	2	5
NNW	1.1	2.0	1	5
N	1.3	2.6	0	1

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.2	7	4
NE	.6	1.9	0	0
ENE	.1	1.9	0	0
E	.6	2.0	0	0
ESE	.7	2.2	0	0
SE	.7	2.0	0	0
SSE	.5	1.8	0	0
S	.3	1.7	0	0
SSW	.1	1.5	0	0
SW	.6	1.5	0	1
WSW	.6	1.4	0	0
W	.8	1.8	9	8
WNW	.9	2.1	58	50
NW	.6	1.8	3	5
NNW	.5	1.6	0	0
N	1.3	2.3	25	30

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.2	7	4
NE	.9	2.6	31	22
ENE	.6	2.3	2	3
E	.4	1.7	0	0
ESE	.8	2.1	6	6
SE	.7	2.1	0	0
SSE	.8	2.2	0	1
S	1.0	2.1	29	26
SSW	.5	1.8	0	0
SW	.6	1.6	1	4
WSW	.1	1.3	0	0
W	.6	1.8	3	3
WNW	.6	1.5	5	6
NW	.1	1.7	0	0
NNW	.7	1.6	11	16
N	.9	1.8	3	8

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.4	1	1
NE	.9	2.3	3	2
ENE	.9	2.0	2	2
E	.7	2.1	0	0
ESE	1.0	2.2	1	2
SE	1.0	1.9	0	0
SSE	.9	1.9	0	0
S	1.0	2.1	3	3
SSW	1.2	2.0	3	4
SW	.6	1.6	0	0
WSW	.7	1.6	0	0
W	.7	1.5	0	0
WNW	1.1	2.1	54	46
NW	.9	2.0	13	16
NNW	1.1	2.2	21	23
N	.9	1.9	0	1

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.1	0	0
NE	.9	2.5	3	4
ENE	1.5	2.9	41	36
E	1.5	3.0	38	33
ESE	.9	2.5	0	0
SE	.5	1.9	0	0
SSE	.8	2.3	0	0
S	1.1	2.7	3	6
SSW	1.3	2.6	12	15
SW	.5	1.5	0	0
WSW	.5	1.4	0	0
W	.4	1.8	0	0
WNW	.8	2.1	1	3
NW	.4	1.9	0	0
NNW	.6	1.7	0	0
N	1.0	2.0	0	3

2000 FULL-BUILD POST-MITIGATION

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.0	1	1
NE	.9	2.7	30	21
ENE	.8	2.4	16	13
E	.4	1.8	0	0
ESE	.8	2.1	9	9
SE	.8	2.1	0	1
SSE	1.0	2.2	2	2
S	.7	1.9	3	3
SSW	.4	1.6	0	0
SW	.1	1.4	0	0
WSW	.1	1.4	0	0
W	.7	1.8	24	22
WNW	.5	1.9	3	4
NW	.4	1.5	0	1
NNW	.6	1.6	4	8
N	.9	1.9	8	14

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.2	0	0
NE	.9	2.4	2	2
ENE	.8	2.1	0	1
E	.7	1.9	0	0
ESE	1.2	2.5	4	5
SE	.9	1.8	0	0
SSE	1.1	2.3	0	0
S	1.0	2.1	1	1
SSW	.8	1.8	0	0
SW	.5	1.4	0	0
WSW	.5	1.7	0	0
W	.7	2.0	0	0
WNW	1.3	2.7	82	74
NW	.7	1.9	0	1
NNW	1.1	2.1	11	16
N	1.0	2.0	0	1

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.3	0	0
NE	.9	2.6	2	2
ENE	1.6	2.9	46	37
E	1.5	2.9	31	24
ESE	.9	2.5	0	0
SE	.5	1.7	0	0
SSE	.9	2.2	0	0
S	1.1	2.8	5	7
SSW	1.2	2.3	2	4
SW	.3	1.6	0	0
WSW	.3	1.5	0	0
W	.8	2.3	2	3
WNW	.8	2.1	4	7
NW	.7	1.6	0	2
NNW	.8	2.2	1	4
N	1.2	2.6	3	9

TABLE E-277

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.4	3.1	10	7
NE	1.5	3.0	31	22
ENE	1.4	3.1	25	20
E	.7	2.1	0	0
ESE	1.1	2.4	1	1
SE	1.1	3.0	0	1
SSE	1.0	2.6	0	0
S	.8	2.4	0	1
SSW	1.1	2.6	1	2
SW	.3	1.8	0	0
WSW	.7	2.2	0	0
W	.7	1.8	0	0
WNW	1.0	2.1	3	4
NW	1.1	2.1	7	11
NNW	1.3	2.4	18	23
N	1.5	2.8	2	7

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.4	2.6	2	1
NE	1.4	2.8	10	8
ENE	1.3	2.8	6	7
E	.9	2.3	0	0
ESE	2.2	3.9	72	62
SE	2.2	3.6	2	5
SSE	1.7	3.1	1	1
S	1.2	2.6	1	2
SSW	1.5	3.3	4	6
SW	.6	1.5	0	0
WSW	.5	1.3	0	0
W	.4	1.2	0	0
WNW	1.0	2.1	0	0
NW	1.1	1.9	1	2
NNW	1.1	2.0	1	3
N	1.3	2.6	0	1

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.2	7	4
NE	.6	1.9	7	5
ENE	.1	1.9	0	0
E	.6	2.0	2	1
ESE	.7	2.2	3	3
SE	.7	2.0	0	0
SSE	.5	1.8	0	0
S	.3	1.7	0	0
SSW	.1	1.5	0	0
SW	.6	1.5	0	0
WSW	.6	1.4	0	0
W	.8	1.8	11	10
WNW	.9	2.1	47	41
NW	.6	1.8	14	17
NNW	.5	1.6	1	4
N	1.3	2.3	9	15

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.2	6	5
NE	.9	2.6	50	37
ENE	.6	2.3	17	16
E	.4	1.7	0	0
ESE	.8	2.1	4	6
SE	.7	2.1	0	0
SSE	.8	2.2	0	1
S	1.0	2.1	9	11
SSW	.5	1.8	0	0
SW	.6	1.6	1	4
WSW	.1	1.3	0	0
W	.6	1.8	9	10
WNW	.6	1.5	1	2
NW	.1	1.7	0	1
NNW	.7	1.6	1	4
N	.9	1.8	0	3

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.4	3	2
NE	.9	2.3	12	8
ENE	.9	2.0	1	2
E	.7	2.1	1	1
ESE	1.0	2.2	5	6
SE	1.0	1.9	0	0
SSE	.9	1.9	0	0
S	1.0	2.1	2	2
SSW	1.2	2.0	1	2
SW	.6	1.6	0	0
WSW	.7	1.6	0	0
W	.7	1.5	1	1
WNW	1.1	2.1	45	40
NW	.9	2.0	18	21
NNW	1.1	2.2	10	14
N	.9	1.9	0	1

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.1	0	0
NE	.9	2.5	11	10
ENE	1.5	2.9	39	33
E	1.5	3.0	32	26
ESE	.9	2.5	1	2
SE	.5	1.9	0	0
SSE	.8	2.3	0	0
S	1.1	2.7	6	8
SSW	1.3	2.6	4	7
SW	.5	1.5	0	0
WSW	.5	1.4	0	0
W	.4	1.8	0	0
WNW	.8	2.1	5	8
NW	.4	1.9	0	2
NNW	.6	1.7	0	1
N	1.0	2.0	0	1

2000 FULL-BUILD POST-MITIGATION

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.0	2	2
NE	.9	2.7	47	35
ENE	.8	2.4	27	24
E	.4	1.8	0	0
ESE	.8	2.1	4	5
SE	.8	2.1	0	1
SSE	1.0	2.2	1	1
S	.7	1.9	2	3
SSW	.4	1.6	0	0
SW	.1	1.4	0	0
WSW	.1	1.4	0	0
W	.7	1.8	15	17
WNW	.5	1.9	1	2
NW	.4	1.5	0	2
NNW	.6	1.6	0	2
N	.9	1.9	1	4

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.2	0	0
NE	.9	2.4	4	4
ENE	.8	2.1	0	1
E	.7	1.9	0	0
ESE	1.2	2.5	7	7
SE	.9	1.8	0	0
SSE	1.1	2.3	0	0
S	1.0	2.1	0	1
SSW	.8	1.8	0	0
SW	.5	1.4	0	0
WSW	.5	1.7	0	0
W	.7	2.0	0	0
WNW	1.3	2.7	83	75
NW	.7	1.9	1	3
NNW	1.1	2.1	4	9
N	1.0	2.0	0	1

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.3	1	1
NE	.9	2.6	9	8
ENE	1.6	2.9	38	30
E	1.5	2.9	25	18
ESE	.9	2.5	1	1
SE	.5	1.7	0	0
SSE	.9	2.2	0	0
S	1.1	2.8	10	11
SSW	1.2	2.3	1	2
SW	.3	1.6	0	0
WSW	.3	1.5	0	0
W	.8	2.3	5	6
WNW	.8	2.1	5	6
NW	.7	1.6	0	1
NNW	.8	2.2	4	9
N	1.2	2.6	2	7

TABLE E-278

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.8	1	1
NE	.9	2.1	15	11
ENE	1.0	2.5	22	18
E	.8	2.1	3	2
ESE	.7	1.7	0	0
SE	.5	1.4	0	0
SSE	.6	1.4	0	0
S	.5	1.6	0	0
SSW	.1	1.5	0	0
SW	.5	1.4	0	0
WSW	.4	1.2	0	0
W	.2	1.5	0	0
WNW	.9	1.8	45	44
NW	.7	1.7	13	18
NNW	.6	1.6	0	1
N	.9	1.7	2	6

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.1	0	0
NE	1.3	2.4	8	6
ENE	1.7	2.9	27	22
E	1.6	2.8	10	7
ESE	1.3	2.5	1	1
SE	.8	1.8	0	0
SSE	.1	1.5	0	0
S	.1	1.4	0	0
SSW	.5	1.4	0	0
SW	.4	1.3	0	0
WSW	.1	1.4	0	0
W	.7	1.6	0	0
WNW	1.0	2.3	3	4
NW	1.4	2.7	37	39
NNW	1.3	2.8	15	21
N	.4	1.6	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.9	0	0
NE	.1	1.7	0	0
ENE	.1	1.5	0	0
E	.1	1.4	0	0
ESE	.3	1.3	0	0
SE	.4	1.3	0	0
SSE	.1	1.6	0	0
S	.1	1.3	0	0
SSW	.4	1.2	0	0
SW	.5	1.6	0	1
WSW	.4	1.4	0	0
W	.3	1.7	0	0
WNW	.7	2.0	14	15
NW	.9	2.2	72	63
NNW	.8	2.2	15	20
N	.7	1.9	0	2

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.0	0	0
NE	1.1	2.2	19	15
ENE	1.3	2.6	33	28
E	1.2	2.2	16	13
ESE	1.0	1.9	4	6
SE	.5	1.9	0	0
SSE	.3	1.7	0	0
S	.7	1.8	0	0
SSW	.6	1.9	0	0
SW	.4	1.4	0	0
WSW	.5	1.3	0	0
W	.9	1.9	8	10
WNW	.9	2.0	19	23
NW	.7	1.7	1	4
NNW	.5	1.5	0	0
N	.5	2.0	0	0

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.7	0	0
NE	2.2	3.5	8	6
ENE	2.7	4.3	23	19
E	2.8	4.0	19	13
ESE	2.4	3.5	6	7
SE	1.3	2.5	0	0
SSE	1.2	2.6	0	0
S	.7	2.0	0	0
SSW	.3	1.7	0	0
SW	.1	1.7	0	0
WSW	1.0	2.0	0	0
W	1.7	2.6	1	1
WNW	1.9	3.2	14	15
NW	2.1	3.4	25	28
NNW	1.9	3.1	5	10
N	.3	1.8	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.8	0	0
NE	.3	1.6	0	0
ENE	.1	1.5	0	0
E	.1	1.6	0	0
ESE	.2	1.4	0	0
SE	.1	1.4	0	0
SSE	.1	1.4	0	0
S	.1	1.6	0	0
SSW	.1	1.5	0	0
SW	.1	1.7	0	0
WSW	.1	1.5	0	0
W	.4	1.7	0	0
WNW	.4	2.0	0	0
NW	.9	2.4	91	79
NNW	.7	2.2	8	14
N	.9	2.2	3	8

2000 FULL-BUILD POST-MITIGATION

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.0	0	0
NE	1.1	2.4	6	6
ENE	1.4	2.4	23	20
E	1.3	2.3	10	8
ESE	1.2	2.1	4	5
SE	.1	1.7	0	0
SSE	.6	1.8	0	0
S	.8	2.1	0	0
SSW	.9	2.0	0	0
SW	.4	1.6	0	0
WSW	.1	1.6	0	0
W	1.3	2.4	47	47
WNW	.9	2.0	7	9
NW	.8	2.2	2	5
NNW	.6	1.9	0	0
N	.6	2.0	0	0

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.3	0	0
NE	1.5	2.7	20	18
ENE	1.7	2.8	30	28
E	1.8	2.8	30	26
ESE	1.6	2.7	20	25
SE	.8	1.9	0	0
SSE	.7	2.0	0	0
S	.1	1.5	0	0
SSW	.4	1.8	0	0
SW	.1	1.3	0	0
WSW	.3	1.3	0	0
W	.7	1.9	0	0
WNW	.8	1.8	0	0
NW	.8	1.8	0	3
NNW	.6	2.0	0	0
N	.4	1.7	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.8	0	0
NE	.6	2.1	0	0
ENE	.7	1.9	1	2
E	.4	1.4	0	0
ESE	.6	1.5	0	0
SE	.1	1.6	0	0
SSE	.1	1.5	0	0
S	.5	1.6	0	0
SSW	.6	1.6	0	0
SW	.4	1.4	0	0
WSW	.6	1.4	0	0
W	.8	1.9	7	7
WNW	1.0	2.1	84	76
NW	.7	2.1	3	6
NNW	.7	2.0	5	10
N	.7	1.7	0	1

TABLE E-279

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.8	2	1
NE	.9	2.1	23	17
ENE	1.0	2.5	32	25
E	.8	2.1	5	4
ESE	.7	1.7	0	1
SE	.5	1.4	0	0
SSE	.6	1.4	0	0
S	.5	1.6	0	0
SSW	.1	1.5	1	2
SW	.5	1.4	0	0
WSW	.4	1.2	0	0
W	.2	1.5	0	0
WNW	.9	1.8	8	10
NW	.7	1.7	24	28
NNW	.6	1.6	4	9
N	.9	1.7	0	2

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.1	0	0
NE	1.3	2.4	3	2
ENE	1.7	2.9	11	7
E	1.6	2.8	4	2
ESE	1.3	2.5	0	0
SE	.8	1.8	0	0
SSE	.1	1.5	0	0
S	.1	1.4	0	0
SSW	.5	1.4	0	0
SW	.4	1.3	0	0
WSW	.1	1.4	48	58
W	.7	1.6	0	0
WNW	1.0	2.3	1	1
NW	1.4	2.7	21	18
NNW	1.3	2.8	11	12
N	.4	1.6	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.9	0	0
NE	.1	1.7	0	0
ENE	.1	1.5	3	4
E	.1	1.4	0	0
ESE	.3	1.3	0	0
SE	.4	1.3	0	0
SSE	.1	1.6	39	28
S	.1	1.3	0	0
SSW	.4	1.2	0	0
SW	.5	1.6	0	0
WSW	.4	1.4	0	0
W	.3	1.7	0	0
WNW	.7	2.0	5	7
NW	.9	2.2	43	45
NNW	.8	2.2	8	15
N	.7	1.9	0	1

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.0	1	1
NE	1.1	2.2	24	19
ENE	1.3	2.6	28	24
E	1.2	2.2	11	9
ESE	1.0	1.9	2	3
SE	.5	1.9	0	0
SSE	.3	1.7	0	0
S	.7	1.8	0	0
SSW	.6	1.9	0	0
SW	.4	1.4	0	0
WSW	.5	1.3	0	0
W	.9	1.9	10	12
WNW	.9	2.0	20	24
NW	.7	1.7	4	9
NNW	.5	1.5	0	0
N	.5	2.0	0	0

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.7	0	0
NE	2.2	3.5	10	8
ENE	2.7	4.3	25	20
E	2.8	4.0	15	10
ESE	2.4	3.5	4	5
SE	1.3	2.5	0	0
SSE	1.2	2.6	0	0
S	.7	2.0	0	0
SSW	.3	1.7	0	0
SW	.1	1.7	0	0
WSW	1.0	2.0	0	0
W	1.7	2.6	1	2
WNW	1.9	3.2	15	16
NW	2.1	3.4	23	27
NNW	1.9	3.1	6	12
N	.3	1.8	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.8	0	0
NE	.3	1.6	0	0
ENE	.1	1.5	7	6
E	.1	1.6	0	0
ESE	.2	1.4	0	0
SE	.1	1.4	2	4
SSE	.1	1.4	0	0
S	.1	1.6	0	0
SSW	.1	1.5	0	0
SW	.1	1.7	0	0
WSW	.1	1.5	0	0
W	.4	1.7	0	0
WNW	.4	2.0	7	7
NW	.9	2.4	64	56
NNW	.7	2.2	20	23
N	.9	2.2	0	3

2000 FULL-BUILD POST-MITIGATION

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.0	0	0
NE	1.1	2.4	12	9
ENE	1.4	2.4	17	15
E	1.3	2.3	5	3
ESE	1.2	2.1	2	3
SE	.1	1.7	0	0
SSE	.6	1.8	0	0
S	.8	2.1	0	1
SSW	.9	2.0	0	0
SW	.4	1.6	0	0
WSW	.1	1.6	0	0
W	1.3	2.4	33	32
WNW	.9	2.0	18	19
NW	.8	2.2	13	18
NNW	.6	1.9	0	1
N	.6	2.0	0	0

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.3	1	1
NE	1.5	2.7	23	20
ENE	1.7	2.8	30	27
E	1.8	2.8	28	24
ESE	1.6	2.7	16	21
SE	.8	1.9	0	0
SSE	.7	2.0	0	0
S	.1	1.5	0	0
SSW	.4	1.8	0	0
SW	.1	1.3	0	0
WSW	.3	1.3	0	0
W	.7	1.9	0	0
WNW	.8	1.8	0	0
NW	.8	1.8	1	6
NNW	.6	2.0	0	1
N	.4	1.7	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.8	0	0
NE	.6	2.1	3	2
ENE	.7	1.9	3	3
E	.4	1.4	0	0
ESE	.6	1.5	0	0
SE	.1	1.6	0	0
SSE	.1	1.5	0	0
S	.5	1.6	0	0
SSW	.6	1.6	0	0
SW	.4	1.4	0	0
WSW	.6	1.4	0	0
W	.8	1.9	6	6
WNW	1.0	2.1	59	52
NW	.7	2.1	20	22
NNW	.7	2.0	10	15
N	.7	1.7	0	0

TABLE E-280

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.7	0	0
NE	.6	1.5	0	0
ENE	.6	1.5	0	0
E	.7	1.6	0	0
ESE	.7	1.8	0	0
SE	.7	2.3	0	0
SSE	.5	2.2	0	0
S	.6	2.3	0	0
SSW	.1	2.0	0	0
SW	.8	2.3	0	0
WSW	.8	2.3	0	0
W	.7	2.2	0	0
WNW	.8	2.4	0	0
NW	.8	2.3	0	1
NNW	1.8	3.0	101	94
N	1.4	2.8	1	5

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.6	0	0
NE	.9	1.8	1	1
ENE	1.2	2.1	6	6
E	1.1	2.1	2	1
ESE	1.3	2.3	4	4
SE	1.1	2.1	0	0
SSE	.7	1.7	0	0
S	.6	1.9	0	0
SSW	.7	2.1	0	0
SW	1.2	2.7	22	28
WSW	1.0	2.8	1	1
W	.7	2.4	0	0
WNW	.8	2.3	1	1
NW	.9	2.2	2	5
NNW	1.4	2.6	60	50
N	1.2	2.3	0	3

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.3	0	0
NE	.7	1.7	0	0
ENE	1.0	2.2	0	0
E	1.1	2.4	0	0
ESE	1.5	2.6	1	1
SE	1.0	2.0	0	0
SSE	.7	2.2	0	0
S	.9	2.2	0	0
SSW	.9	2.5	0	0
SW	.5	2.0	0	0
WSW	.9	2.5	0	0
W	1.4	2.9	9	9
WNW	1.7	3.2	64	59
NW	1.5	2.7	27	30
NNW	1.0	2.3	0	1
N	.9	2.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.9	0	0
NE	.8	2.0	0	0
ENE	1.2	2.5	1	1
E	1.1	2.6	0	0
ESE	1.3	2.5	0	0
SE	1.2	2.4	0	0
SSE	1.0	2.3	0	0
S	.8	2.2	0	0
SSW	.8	1.9	0	0
SW	.1	2.1	0	0
WSW	.6	2.0	0	0
W	1.3	2.7	1	2
WNW	1.7	3.1	65	60
NW	1.6	2.8	31	33
NNW	1.3	2.6	2	5
N	1.1	2.2	0	0

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.0	0	0
NE	.8	2.0	1	0
ENE	.6	2.1	0	0
E	.7	1.9	0	0
ESE	.9	2.1	0	0
SE	.8	1.9	0	0
SSE	.3	2.0	0	0
S	.9	2.4	1	1
SSW	1.0	2.2	0	1
SW	1.0	2.3	12	17
WSW	.7	1.8	0	0
W	.7	2.0	0	0
WNW	.9	2.1	13	11
NW	1.0	2.0	21	21
NNW	1.2	2.5	48	40
N	1.2	2.4	3	7

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.3	2	1
NE	1.2	2.4	6	4
ENE	1.3	2.6	9	8
E	1.2	2.4	2	1
ESE	1.5	3.2	12	11
SE	1.0	2.5	0	0
SSE	1.1	2.4	0	0
S	1.7	3.0	23	19
SSW	1.4	2.6	1	2
SW	1.5	3.0	40	44
WSW	1.1	2.4	1	1
W	.5	2.0	0	0
WNW	1.0	2.3	3	3
NW	.8	2.2	0	1
NNW	.9	2.3	0	1
N	1.3	2.2	0	3

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.0	1	1
NE	.9	2.3	6	5
ENE	.6	1.9	0	0
E	1.2	2.3	17	13
ESE	1.4	2.7	49	44
SE	.4	2.1	0	0
SSE	.3	1.3	0	0
S	.1	1.6	0	0
SSW	.1	1.5	0	0
SW	.5	1.9	0	0
WSW	.5	1.9	0	0
W	.4	1.7	0	0
WNW	.7	1.8	2	3
NW	.9	1.5	25	31
NNW	.7	1.7	1	4
N	.7	1.8	0	0

TABLE E-281

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.7	0	0
NE	.6	1.5	0	0
ENE	.6	1.5	0	0
E	.7	1.6	0	0
ESE	.7	1.8	0	0
SE	.7	2.3	0	0
SSE	.5	2.2	0	0
S	.6	2.3	0	0
SSW	.1	2.0	0	0
SW	.8	2.3	1	3
WSW	.8	2.3	0	0
W	.7	2.2	1	1
WNW	.8	2.4	6	8
NW	.8	2.3	8	12
NNW	1.8	3.0	83	69
N	1.4	2.8	1	6

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.6	0	0
NE	.9	1.8	0	0
ENE	1.2	2.1	3	3
E	1.1	2.1	1	1
ESE	1.3	2.3	5	4
SE	1.1	2.1	0	0
SSE	.7	1.7	0	0
S	.6	1.9	0	0
SSW	.7	2.1	0	0
SW	1.2	2.7	26	31
WSW	1.0	2.8	6	6
W	.7	2.4	3	2
WNW	.8	2.3	11	9
NW	.9	2.2	7	9
NNW	1.4	2.6	38	34
N	1.2	2.3	0	1

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.3	0	0
NE	.7	1.7	0	0
ENE	1.0	2.2	0	1
E	1.1	2.4	0	0
ESE	1.5	2.6	0	1
SE	1.0	2.0	0	0
SSE	.7	2.2	0	0
S	.9	2.2	0	0
SSW	.9	2.5	0	0
SW	.5	2.0	0	0
WSW	.9	2.5	0	0
W	1.4	2.9	14	13
WNW	1.7	3.2	65	60
NW	1.5	2.7	20	24
NNW	1.0	2.3	0	2
N	.9	2.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	1.9	0	0
NE	.8	2.0	0	0
ENE	1.2	2.5	1	2
E	1.1	2.6	0	0
ESE	1.3	2.5	0	0
SE	1.2	2.4	0	0
SSE	1.0	2.3	0	0
S	.8	2.2	0	0
SSW	.8	1.9	0	0
SW	.1	2.1	0	0
WSW	.6	2.0	0	0
W	1.3	2.7	4	4
WNW	1.7	3.1	69	62
NW	1.6	2.8	23	26
NNW	1.3	2.6	2	6
N	1.1	2.2	0	0

LOCATION 40

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.0	0	0
NE	.8	2.0	1	1
ENE	.6	2.1	1	1
E	.7	1.9	0	0
ESE	.9	2.1	0	0
SE	.8	1.9	0	0
SSE	.3	2.0	0	0
S	.9	2.4	3	2
SSW	1.0	2.2	0	1
SW	1.0	2.3	15	20
WSW	.7	1.8	0	0
W	.7	2.0	1	1
WNW	.9	2.1	13	11
NW	1.0	2.0	15	16
NNW	1.2	2.5	48	40
N	1.2	2.4	2	5

LOCATION 41

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.3	0	0
NE	1.2	2.4	6	4
ENE	1.3	2.6	8	7
E	1.2	2.4	3	1
ESE	1.5	3.2	15	12
SE	1.0	2.5	0	0
SSE	1.1	2.4	0	0
S	1.7	3.0	14	11
SSW	1.4	2.6	0	1
SW	1.5	3.0	42	46
WSW	1.1	2.4	2	2
W	.5	2.0	0	0
WNW	1.0	2.3	8	7
NW	.8	2.2	2	4
NNW	.9	2.3	1	4
N	1.3	2.2	0	1

LOCATION 42

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.0	0	0
NE	.9	2.3	8	7
ENE	.6	1.9	0	1
E	1.2	2.3	10	8
ESE	1.4	2.7	37	34
SE	.4	2.1	0	0
SSE	.3	1.3	0	0
S	.1	1.6	40	39
SSW	.1	1.5	0	0
SW	.5	1.9	1	4
WSW	.5	1.9	0	0
W	.4	1.7	0	0
WNW	.7	1.8	3	4
NW	.9	1.5	0	1
NNW	.7	1.7	0	2
N	.7	1.8	0	0

TABLE E-282

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.0	2.3	5	3
NE	.9	2.3	12	7
ENE	.7	2.0	1	1
E	.8	1.9	2	1
ESE	.9	2.0	1	1
SE	.7	2.0	0	0
SSE	.7	2.0	0	0
S	1.0	2.4	8	6
SSW	1.2	2.5	20	13
SW	.9	2.3	18	22
WSW	1.2	2.6	32	41
W	.3	1.7	0	0
WNW	.2	1.6	0	0
NW	.5	1.7	0	0
NNW	.7	2.3	1	3
N	.9	2.2	0	2

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.1	2	1
NE	1.0	2.4	14	9
ENE	.6	2.2	0	0
E	.6	1.8	0	0
ESE	1.1	2.3	11	8
SE	.9	2.0	0	0
SSE	.8	2.1	0	0
S	1.1	2.6	11	8
SSW	1.2	2.5	12	9
SW	1.0	2.5	18	22
WSW	1.2	2.6	21	25
W	.6	1.8	0	0
WNW	.5	1.6	0	0
NW	.4	1.8	0	0
NNW	.9	2.2	12	14
N	1.0	2.2	1	3

2000 FULL-BUILD POST-MITIGATION

LOCATION 43

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.4	2.5	26	19
NE	1.1	2.3	21	16
ENE	.7	1.9	1	1
E	.4	1.4	0	0
ESE	1.3	3.0	41	39
SE	1.0	2.4	0	1
SSE	.8	2.5	0	0
S	.4	1.9	0	0
SSW	.3	1.8	0	0
SW	.7	1.5	0	2
WSW	.8	1.8	0	1
W	.6	1.5	0	0
WNW	.6	1.4	0	0
NW	.5	1.9	0	0
NNW	.3	2.3	0	0
N	1.3	2.5	12	21

LOCATION 44

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.6	1.7	0	0
NE	.4	1.5	0	0
ENE	.1	1.5	0	0
E	.6	1.5	0	0
ESE	.9	2.4	0	0
SE	1.2	2.8	0	0
SSE	1.3	2.2	0	0
S	1.0	2.4	0	0
SSW	.9	2.0	0	0
SW	1.1	2.6	5	10
WSW	1.2	2.5	3	3
W	1.0	2.3	2	1
WNW	1.2	2.6	22	19
NW	1.3	2.6	45	37
NNW	1.4	3.0	29	29
N	.8	2.4	0	0

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.3	2.6	7	4
NE	.5	1.8	0	0
ENE	.6	1.7	0	0
E	.5	2.1	0	0
ESE	.9	2.4	0	0
SE	.8	2.3	0	0
SSE	1.2	2.4	0	0
S	1.3	2.8	11	9
SSW	1.2	2.8	3	3
SW	1.2	2.5	25	28
WSW	.9	2.5	0	0
W	.6	1.9	0	0
WNW	.4	1.8	0	0
NW	.7	1.8	0	1
NNW	1.2	2.4	43	36
N	1.5	2.7	12	16

TABLE E-283

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.0	2.3	3	1
NE	.9	2.3	10	6
ENE	.7	2.0	3	3
E	.8	1.9	1	1
ESE	.9	2.0	1	1
SE	.7	2.0	0	0
SSE	.7	2.0	0	0
S	1.0	2.4	8	6
SSW	1.2	2.5	8	6
SW	.9	2.3	31	33
WSW	1.2	2.6	25	30
W	.3	1.7	0	0
WNW	.2	1.6	0	0
NW	.5	1.7	0	1
NNW	.7	2.3	8	10
N	.9	2.2	1	2

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.1	1	0
NE	1.0	2.4	13	8
ENE	.6	2.2	2	2
E	.6	1.8	0	0
ESE	1.1	2.3	5	4
SE	.9	2.0	0	0
SSE	.8	2.1	0	0
S	1.1	2.6	8	6
SSW	1.2	2.5	4	4
SW	1.0	2.5	29	32
WSW	1.2	2.6	21	25
W	.6	1.8	0	0
WNW	.5	1.6	0	0
NW	.4	1.8	0	0
NNW	.9	2.2	14	15
N	1.0	2.2	0	2

2000 FULL-BUILD POST-MITIGATION

LOCATION 43

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.4	2.5	17	12
NE	1.1	2.3	22	16
ENE	.7	1.9	2	3
E	.4	1.4	0	0
ESE	1.3	3.0	46	41
SE	1.0	2.4	0	1
SSE	.8	2.5	0	1
S	.4	1.9	1	1
SSW	.3	1.8	0	0
SW	.7	1.5	0	0
WSW	.8	1.8	0	0
W	.6	1.5	0	0
WNW	.6	1.4	0	0
NW	.5	1.9	0	1
NNW	.3	2.3	3	3
N	1.3	2.5	8	16

LOCATION 44

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.6	1.7	0	0
NE	.4	1.5	0	0
ENE	.1	1.5	0	0
E	.6	1.5	0	0
ESE	.9	2.4	0	0
SE	1.2	2.8	0	0
SSE	1.0	2.2	0	0
S	1.0	2.4	0	0
SSW	.9	2.0	0	0
SW	1.1	2.6	7	12
WSW	1.2	2.5	2	3
W	1.0	2.3	3	2
WNW	1.2	2.6	24	21
NW	1.3	2.6	31	30
NNW	1.4	3.0	33	31
N	.8	2.4	0	0

LOCATION 48

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.3	2.6	5	3
NE	.5	1.8	0	0
ENE	.6	1.7	0	0
E	.5	2.1	0	0
ESE	.9	2.4	1	1
SE	.8	2.3	0	0
SSE	1.2	2.4	0	0
S	1.3	2.8	14	11
SSW	1.2	2.8	6	5
SW	1.2	2.5	33	35
WSW	.9	2.5	5	5
W	.6	1.9	0	0
WNW	.4	1.8	0	0
NW	.7	1.8	1	3
NNW	1.2	2.4	29	27
N	1.5	2.7	5	9

TABLE E-284

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.2	0	0
NE	.8	2.2	0	0
ENE	1.1	2.7	7	5
E	.8	1.6	0	0
ESE	.6	2.1	0	0
SE	.8	1.7	0	0
SSE	.5	2.1	0	0
S	.8	2.1	0	0
SSW	1.2	2.3	1	2
SW	1.4	2.6	58	54
WSW	1.4	2.9	27	32
W	.8	1.9	0	0
WNW	.8	2.2	1	1
NW	.8	2.0	3	4
NNW	.8	2.3	1	2
N	.7	1.8	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.4	0	0
NE	.8	2.5	0	0
ENE	.9	2.6	0	0
E	1.6	3.1	3	2
ESE	2.5	3.8	55	42
SE	1.9	3.4	0	1
SSE	1.5	2.9	0	0
S	1.7	2.9	3	3
SSW	1.3	2.6	0	0
SW	1.5	2.9	6	12
WSW	1.7	3.1	6	8
W	1.1	2.3	0	0
WNW	1.1	2.2	1	1
NW	1.4	2.3	8	11
NNW	1.7	2.8	18	21
N	1.4	2.5	0	1

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.2	0	0
NE	.5	2.1	0	0
ENE	.6	1.9	0	0
E	1.1	2.3	0	0
ESE	.7	1.7	0	0
SE	.4	1.8	0	0
SSE	.4	1.5	0	0
S	.7	1.6	0	0
SSW	.6	2.3	0	0
SW	1.9	3.7	33	38
WSW	1.2	3.4	0	0
W	.8	2.3	0	0
WNW	1.4	2.9	7	7
NW	1.4	2.8	11	13
NNW	1.9	3.6	48	41
N	1.5	3.0	0	1

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.3	0	0
NE	1.0	2.6	3	1
ENE	1.1	2.5	4	3
E	.7	2.0	0	0
ESE	.9	2.4	0	0
SE	.7	2.1	0	0
SSE	.7	1.8	0	0
S	.6	2.0	0	0
SSW	1.1	2.4	0	0
SW	1.3	2.6	44	41
WSW	1.6	2.9	35	40
W	.9	2.3	1	0
WNW	.8	2.3	1	1
NW	1.0	2.5	7	8
NNW	1.0	2.4	4	6
N	.7	2.1	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.5	0	0
NE	.7	2.5	0	0
ENE	.9	2.4	0	0
E	1.6	3.1	2	1
ESE	2.6	4.0	60	47
SE	1.9	3.2	0	1
SSE	1.6	3.0	0	0
S	1.8	3.0	3	3
SSW	1.3	2.7	0	0
SW	1.4	2.9	1	4
WSW	1.7	3.2	4	5
W	1.0	2.4	0	0
WNW	1.2	2.4	1	1
NW	1.5	2.5	10	13
NNW	1.7	2.9	18	22
N	1.6	2.8	0	1

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.7	0	0
NE	.3	1.9	0	0
ENE	.7	1.9	0	0
E	1.2	2.6	0	0
ESE	.7	2.1	0	0
SE	.7	1.9	0	0
SSE	.6	2.2	0	0
S	.2	2.0	0	0
SSW	.5	2.3	0	0
SW	1.7	3.7	23	29
WSW	1.2	3.3	0	0
W	.9	2.6	0	0
WNW	1.4	3.1	10	9
NW	1.4	2.9	13	15
NNW	1.9	3.5	53	44
N	1.6	3.1	0	2

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.6	0	0
NE	.5	2.2	0	0
ENE	.5	1.6	0	0
E	.7	2.1	0	0
ESE	.9	2.1	0	0
SE	.8	2.0	0	0
SSE	.6	1.6	0	0
S	.6	2.0	0	0
SSW	.6	2.0	0	0
SW	1.7	3.4	62	61
WSW	1.3	3.1	3	3
W	.8	2.4	0	0
WNW	1.3	3.1	26	21
NW	1.2	2.8	9	11
NNW	1.1	3.1	1	3
N	1.0	2.4	0	0

TABLE E-285

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.2	0	0
NE	.8	2.2	3	2
ENE	1.1	2.7	12	9
E	.8	1.6	0	0
ESE	.6	2.1	0	0
SE	.8	1.7	0	0
SSE	.5	2.1	0	0
S	.8	2.1	0	0
SSW	1.2	2.3	1	1
SW	1.4	2.6	43	41
WSW	1.4	2.9	27	31
W	.8	1.9	1	1
WNW	.8	2.2	4	3
NW	.8	2.0	4	5
NNW	.8	2.3	5	7
N	.7	1.8	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.4	0	0
NE	.8	2.5	0	0
ENE	.9	2.6	1	1
E	1.6	3.1	7	4
ESE	2.5	3.8	43	32
SE	1.9	3.4	0	1
SSE	1.5	2.9	0	0
S	1.7	2.9	3	3
SSW	1.3	2.6	0	0
SW	1.5	2.9	13	18
WSW	1.7	3.1	9	11
W	1.1	2.3	1	1
WNW	1.1	2.2	1	1
NW	1.4	2.3	5	8
NNW	1.7	2.8	17	19
N	1.4	2.5	0	1

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.2	0	0
NE	.5	2.1	0	0
ENE	.6	1.9	0	0
E	1.1	2.3	0	0
ESE	.7	1.7	0	0
SE	.4	1.8	0	0
SSE	.4	1.5	0	0
S	.7	1.6	0	0
SSW	.6	2.3	0	0
SW	1.9	3.7	37	40
WSW	1.2	3.4	1	1
W	.8	2.3	0	0
WNW	1.4	2.9	15	12
NW	1.4	2.8	12	13
NNW	1.9	3.6	36	32
N	1.5	3.0	0	1

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.3	1	0
NE	1.0	2.6	8	5
ENE	1.1	2.5	6	5
E	.7	2.0	0	0
ESE	.9	2.4	0	0
SE	.7	2.1	0	0
SSE	.7	1.8	0	0
S	.6	2.0	0	0
SSW	1.1	2.4	0	1
SW	1.3	2.6	34	34
WSW	1.6	2.9	24	28
W	.9	2.3	1	1
WNW	.8	2.3	6	4
NW	1.0	2.5	10	11
NNW	1.0	2.4	9	11
N	.7	2.1	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.5	0	0
NE	.7	2.5	0	0
ENE	.9	2.4	0	1
E	1.6	3.1	5	3
ESE	2.6	4.0	49	37
SE	1.9	3.2	0	1
SSE	1.6	3.0	0	0
S	1.8	3.0	3	3
SSW	1.3	2.7	0	0
SW	1.4	2.9	7	12
WSW	1.7	3.2	7	9
W	1.0	2.4	1	1
WNW	1.2	2.4	3	3
NW	1.5	2.5	8	11
NNW	1.7	2.8	16	19
N	1.6	2.8	0	1

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	2.7	0	0
NE	.3	1.9	0	0
ENE	.7	1.9	0	0
E	1.2	2.6	0	0
ESE	.7	2.1	0	0
SE	.7	1.9	0	0
SSE	.6	2.2	0	0
S	.2	2.0	0	0
SSW	.5	2.3	0	0
SW	1.7	3.7	31	35
WSW	1.2	3.3	1	1
W	.9	2.6	0	0
WNW	1.4	3.1	19	15
NW	1.4	2.9	14	15
NNW	1.9	3.5	36	32
N	1.6	3.1	0	1

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-286

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	2.4	0	0
NE	.4	2.0	0	0
ENE	.5	1.9	0	0
E	.8	1.9	0	0
ESE	1.0	1.9	0	0
SE	1.2	2.3	0	0
SSE	1.4	2.8	0	0
S	1.6	3.0	13	8
SSW	1.7	3.2	8	5
SW	1.3	3.1	9	10
WSW	2.1	3.6	69	77
W	.6	2.2	0	0
WNW	.7	2.8	0	0
NW	.8	3.6	0	0
NNW	.1	1.7	0	0
N	.1	1.7	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.8	0	0
NE	.6	1.9	0	0
ENE	.9	2.2	1	2
E	.9	2.0	0	0
ESE	.9	1.9	0	0
SE	.8	1.9	0	0
SSE	.8	2.3	0	0
S	1.0	2.5	1	1
SSW	1.3	3.0	4	4
SW	1.1	2.8	10	16
WSW	1.1	2.7	3	3
W	1.3	2.8	54	44
WNW	.8	2.0	0	1
NW	.9	2.3	7	9
NNW	1.1	2.2	18	20
N	.8	2.5	0	0

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.1	0	0
NE	.6	1.9	0	0
ENE	1.0	2.2	3	4
E	1.5	2.5	18	12
ESE	1.6	2.4	40	33
SE	1.1	2.1	0	0
SSE	1.1	2.2	0	0
S	1.2	2.4	4	4
SSW	.9	2.6	0	0
SW	1.0	2.9	5	11
WSW	.9	2.8	1	1
W	1.1	2.8	19	18
WNW	.8	2.1	1	1
NW	.8	2.0	1	2
NNW	1.0	2.4	8	13
N	.7	1.9	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	2.2	0	0
NE	.4	1.9	0	0
ENE	.6	2.1	0	0
E	.9	2.1	0	0
ESE	1.1	2.1	0	0
SE	1.1	2.1	0	0
SSE	1.3	2.7	0	0
S	1.7	3.0	15	9
SSW	1.7	3.3	11	7
SW	1.0	2.9	0	1
WSW	2.2	3.7	72	83
W	.7	2.2	0	0
WNW	.6	2.9	0	0
NW	.8	3.3	0	0
NNW	.5	1.8	0	0
N	.5	1.7	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.2	0	0
NE	.5	1.5	0	0
ENE	.8	2.6	0	0
E	.9	2.2	0	0
ESE	1.0	2.3	1	1
SE	.6	1.6	0	0
SSE	.7	2.2	0	0
S	.9	2.5	0	0
SSW	1.3	3.0	4	5
SW	1.1	2.8	8	13
WSW	1.0	2.7	2	2
W	1.4	2.9	64	52
WNW	.8	2.1	1	2
NW	.9	2.2	4	7
NNW	1.1	2.3	13	17
N	1.0	2.2	0	0

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.3	0	0
NE	.6	2.0	0	0
ENE	1.0	2.6	0	1
E	1.5	2.7	5	3
ESE	1.7	2.8	12	10
SE	1.4	2.6	0	0
SSE	1.1	2.5	0	0
S	1.1	2.4	0	0
SSW	1.0	2.6	0	0
SW	1.2	3.0	3	8
WSW	.9	3.0	0	0
W	1.4	3.4	14	12
WNW	1.1	2.7	3	3
NW	1.5	3.2	38	36
NNW	1.5	3.2	24	25
N	1.5	3.2	0	3

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.5	0	0
NE	1.2	2.6	1	0
ENE	1.3	2.6	1	1
E	1.8	3.0	2	1
ESE	2.3	3.6	10	7
SE	1.7	2.9	0	0
SSE	1.3	2.4	0	0
S	1.3	2.8	0	0
SSW	.8	2.7	0	0
SW	1.7	3.1	10	13
WSW	2.7	4.3	43	52
W	1.6	3.1	9	6
WNW	1.6	2.9	9	6
NW	1.6	2.8	14	13
NNW	1.1	2.4	0	1
N	1.1	2.7	0	0

TABLE E-287

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.4	2.4	0	0
NE	.4	2.0	0	0
ENE	.5	1.9	0	0
E	.8	1.9	0	0
ESE	1.0	1.9	0	0
SE	1.2	2.3	0	0
SSE	1.4	2.8	0	0
S	1.6	3.0	7	5
SSW	1.7	3.2	4	4
SW	1.3	3.1	22	24
WSW	2.1	3.6	38	44
W	.6	2.2	0	0
WNW	.7	2.8	2	1
NW	.8	3.6	28	23
NNW	.1	1.7	0	0
N	.1	1.7	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.8	0	0
NE	.6	1.9	0	0
ENE	.9	2.2	1	2
E	.9	2.0	0	0
ESE	.9	1.9	0	0
SE	.8	1.9	0	0
SSE	.8	2.3	0	0
S	1.0	2.5	2	2
SSW	1.3	3.0	7	6
SW	1.1	2.8	22	27
WSW	1.1	2.7	6	6
W	1.3	2.8	45	35
WNW	.8	2.0	3	2
NW	.9	2.3	8	10
NNW	1.1	2.2	6	9
N	.8	2.5	0	1

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.1	0	0
NE	.6	1.9	0	0
ENE	1.0	2.2	4	3
E	1.5	2.5	6	3
ESE	1.6	2.4	6	5
SE	1.1	2.1	0	0
SSE	1.1	2.2	0	0
S	1.2	2.4	2	2
SSW	.9	2.6	0	0
SW	1.0	2.9	24	29
WSW	.9	2.8	4	5
W	1.1	2.8	40	32
WNW	.8	2.1	2	2
NW	.8	2.0	2	4
NNW	1.0	2.4	9	13
N	.7	1.9	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	2.2	0	0
NE	.4	1.9	0	0
ENE	.6	2.1	0	0
E	.9	2.1	0	0
ESE	1.1	2.1	0	0
SE	1.1	2.1	0	0
SSE	1.3	2.7	0	0
S	1.7	3.0	8	6
SSW	1.7	3.3	7	5
SW	1.0	2.9	12	14
WSW	2.2	3.7	47	55
W	.7	2.2	0	0
WNW	.6	2.9	3	2
NW	.8	3.3	22	18
NNW	.5	1.8	0	0
N	.5	1.7	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.2	0	0
NE	.5	1.5	0	0
ENE	.8	2.6	2	2
E	.9	2.2	0	0
ESE	1.0	2.3	0	0
SE	.6	1.6	0	0
SSE	.7	2.2	0	0
S	.9	2.5	1	1
SSW	1.3	3.0	8	7
SW	1.1	2.8	26	31
WSW	1.0	2.7	6	7
W	1.4	2.9	40	31
WNW	.8	2.1	5	4
NW	.9	2.2	4	6
NNW	1.1	2.3	6	10
N	1.0	2.2	0	0

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.3	0	0
NE	.6	2.0	0	0
ENE	1.0	2.6	1	1
E	1.5	2.7	2	1
ESE	1.7	2.8	1	1
SE	1.4	2.6	0	0
SSE	1.1	2.5	0	0
S	1.1	2.4	0	0
SSW	1.0	2.6	0	0
SW	1.2	3.0	8	13
WSW	.9	3.0	0	0
W	1.4	3.4	31	25
WNW	1.1	2.7	4	4
NW	1.5	3.2	33	31
NNW	1.5	3.2	20	22
N	1.5	3.2	0	2

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.5	0	0
NE	1.2	2.6	1	0
ENE	1.3	2.6	1	1
E	1.8	3.0	2	1
ESE	2.3	3.6	10	7
SE	1.7	2.9	0	0
SSE	1.3	2.4	0	0
S	1.3	2.8	0	0
SSW	.8	2.7	0	0
SW	1.7	3.1	10	13
WSW	2.7	4.3	43	52
W	1.6	3.1	9	6
WNW	1.6	2.9	9	6
NW	1.6	2.8	14	13
NNW	1.1	2.4	0	1
N	1.1	2.7	0	0

TABLE E-288

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.6	0	0
NE	.8	2.1	0	0
ENE	1.2	2.3	4	4
E	1.5	2.5	10	6
ESE	1.8	2.7	26	21
SE	1.3	2.4	0	0
SSE	1.0	2.2	0	0
S	1.2	2.5	1	1
SSW	1.2	2.4	0	0
SW	1.0	2.8	0	2
WSW	1.5	3.1	13	18
W	1.2	3.1	8	7
WNW	1.3	2.8	26	23
NW	1.1	2.5	9	12
NNW	1.1	2.4	2	5
N	.7	1.7	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.4	0	0
NE	.8	1.9	0	0
ENE	.8	2.1	0	0
E	.8	2.2	0	0
ESE	1.1	2.6	0	0
SE	1.0	2.4	0	0
SSE	.6	2.1	0	0
S	.6	1.9	0	0
SSW	.9	2.2	0	0
SW	1.3	2.9	27	32
WSW	1.4	2.8	11	13
W	1.4	2.9	44	35
WNW	1.0	2.4	7	7
NW	1.0	2.2	11	13
NNW	.7	1.7	0	0
N	.4	1.8	0	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.7	0	0
NE	.9	2.6	1	0
ENE	1.2	2.8	5	4
E	1.4	2.6	9	5
ESE	1.5	2.8	13	11
SE	1.3	2.4	0	0
SSE	1.0	2.3	0	0
S	1.3	2.5	2	2
SSW	1.3	2.8	1	2
SW	1.1	2.7	2	6
WSW	1.4	3.3	11	14
W	1.2	3.1	11	9
WNW	1.2	2.6	32	27
NW	1.1	2.3	7	10
NNW	1.1	2.2	6	10
N	.7	1.9	0	0

1995 INTERIM-BUILD
POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.0	0	0
NE	.7	2.0	0	0
ENE	.9	2.4	0	0
E	1.6	2.8	12	8
ESE	1.9	3.0	28	24
SE	1.5	2.7	0	1
SSE	1.1	2.4	0	0
S	1.1	2.6	0	0
SSW	1.1	2.5	0	0
SW	1.0	2.8	1	2
WSW	1.5	3.3	10	13
W	1.3	3.2	13	11
WNW	1.3	2.8	29	27
NW	1.2	2.7	7	11
NNW	1.1	2.4	1	3
N	.8	2.0	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.9	0	0
NE	.6	1.7	0	0
ENE	.9	2.3	0	0
E	1.0	2.2	0	0
ESE	1.3	2.8	1	1
SE	.9	2.6	0	0
SSE	.6	2.0	0	0
S	.7	2.1	0	0
SSW	1.0	2.5	0	0
SW	1.2	3.2	9	14
WSW	1.5	3.0	14	18
W	1.5	3.1	51	41
WNW	1.2	2.5	15	13
NW	1.1	2.4	10	12
NNW	.8	1.9	0	0
N	.9	1.9	0	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.3	0	0
NE	.8	2.2	0	0
ENE	1.2	2.7	2	3
E	1.5	2.9	8	5
ESE	1.7	2.8	14	12
SE	1.4	2.4	0	0
SSE	1.1	2.5	0	0
S	1.2	3.0	0	0
SSW	1.4	3.2	1	2
SW	1.1	2.7	3	6
WSW	1.4	3.4	7	9
W	1.3	3.3	12	10
WNW	1.4	2.6	38	32
NW	1.2	2.3	10	13
NNW	1.2	2.7	5	9
N	.9	2.4	0	0

2000 FULL-BUILD
POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.6	0	0
NE	1.2	2.6	0	0
ENE	1.5	2.6	2	2
E	2.0	3.1	10	6
ESE	2.4	3.5	33	25
SE	1.8	2.8	0	0
SSE	1.4	2.4	0	0
S	1.4	2.6	0	0
SSW	1.3	2.8	0	0
SW	1.3	2.8	1	2
WSW	2.3	3.8	32	43
W	1.4	3.0	3	3
WNW	1.5	2.7	14	12
NW	1.4	2.8	3	6
NNW	1.1	2.3	0	0
N	1.1	2.9	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.7	0	0
NE	.5	1.7	0	0
ENE	.8	1.8	0	0
E	.9	2.1	0	0
ESE	1.1	2.2	0	0
SE	.9	2.2	0	0
SSE	.7	2.1	0	0
S	.7	1.8	0	0
SSW	1.0	2.5	0	0
SW	1.3	3.2	22	28
WSW	1.5	3.0	8	10
W	1.5	3.1	46	37
WNW	1.2	2.5	12	11
NW	1.1	2.4	11	14
NNW	.8	1.9	0	0
N	.9	1.9	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	3.0	1	1
NE	1.4	3.3	35	26
ENE	.8	2.6	0	1
E	.7	2.5	0	0
ESE	.5	2.1	0	0
SE	.8	2.6	0	0
SSE	.8	2.4	0	0
S	.5	1.6	0	0
SSW	.7	1.8	0	0
SW	.1	1.6	0	0
WSW	.5	1.6	0	0
W	.6	1.7	0	0
WNW	1.0	2.2	19	21
NW	.8	2.3	4	8
NNW	1.2	2.7	40	41
N	1.0	2.4	0	2

TABLE E-289
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN
POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.6	0	0
NE	.9	2.1	0	0
ENE	1.2	2.3	2	2
E	1.5	2.5	3	2
ESE	1.8	2.7	4	4
SE	1.3	2.4	0	0
SSE	1.0	2.2	0	0
S	1.2	2.5	0	0
SSW	1.2	2.4	0	0
SW	1.0	2.8	6	11
WSW	1.5	3.1	12	15
W	1.2	3.1	30	24
WNW	1.3	2.8	32	26
NW	1.1	2.5	7	9
NNW	1.1	2.4	3	6
N	.7	1.7	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.4	0	0
NE	.8	1.9	0	0
ENE	.8	2.1	0	1
E	.8	2.2	0	0
ESE	1.1	2.6	0	0
SE	1.0	2.4	0	0
SSE	.6	2.1	0	0
S	.6	1.9	0	0
SSW	.9	2.2	0	0
SW	1.3	2.9	25	31
WSW	1.4	2.8	7	9
W	1.4	2.9	48	39
WNW	1.0	2.4	11	10
NW	1.0	2.2	8	11
NNW	.7	1.7	0	0
N	.4	1.8	0	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.7	0	0
NE	.9	2.6	2	1
ENE	1.2	2.8	6	5
E	1.4	2.6	4	2
ESE	1.5	2.8	3	3
SE	1.3	2.4	0	0
SSE	1.0	2.3	0	0
S	1.3	2.5	1	1
SSW	1.3	2.8	1	1
SW	1.1	2.7	5	9
WSW	1.4	3.3	14	17
W	1.2	3.1	36	29
WNW	1.2	2.6	25	21
NW	1.1	2.3	2	3
NNW	1.1	2.2	3	6
N	.7	1.9	0	0

1995 INTERIM-BUILD
POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	2.0	0	0
NE	.7	2.0	0	0
ENE	.9	2.4	1	1
E	1.6	2.8	4	3
ESE	1.9	3.0	5	5
SE	1.5	2.7	0	0
SSE	1.1	2.4	0	0
S	1.1	2.6	0	0
SSW	1.1	2.5	0	0
SW	1.0	2.8	3	8
WSW	1.5	3.3	9	12
W	1.3	3.2	36	29
WNW	1.3	2.8	29	25
NW	1.2	2.7	10	12
NNW	1.1	2.4	2	5
N	.8	2.0	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.9	0	0
NE	.6	1.7	0	0
ENE	.9	2.3	0	0
E	1.0	2.2	0	0
ESE	1.3	2.8	0	1
SE	.9	2.6	0	0
SSE	.6	2.0	0	0
S	.7	2.1	0	0
SSW	1.0	2.5	0	0
SW	1.2	3.2	22	28
WSW	1.5	3.0	8	10
W	1.5	3.1	46	37
WNW	1.2	2.5	12	11
NW	1.1	2.4	11	14
NNW	.8	1.9	0	0
N	.9	1.9	0	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.3	0	0
NE	.8	2.2	0	0
ENE	1.2	2.7	4	4
E	1.5	2.9	5	3
ESE	1.7	2.8	3	3
SE	1.4	2.4	0	0
SSE	1.1	2.5	0	0
S	1.2	3.0	1	1
SSW	1.4	3.2	1	2
SW	1.1	2.7	4	8
WSW	1.4	3.4	11	14
W	1.3	3.3	32	25
WNW	1.4	2.6	27	22
NW	1.2	2.3	4	6
NNW	1.2	2.7	8	12
N	.9	2.4	0	0

2000 FULL-BUILD
POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.6	0	0
NE	1.2	2.6	1	1
ENE	1.5	2.6	2	2
E	2.0	3.1	7	3
ESE	2.4	3.5	15	11
SE	1.8	2.8	0	0
SSE	1.4	2.4	0	0
S	1.4	2.6	0	0
SSW	1.3	2.8	0	0
SW	1.3	2.8	4	7
WSW	2.3	3.8	33	42
W	1.4	3.0	11	8
WNW	1.5	2.7	16	12
NW	1.4	2.8	10	11
NNW	1.1	2.3	0	1
N	1.1	2.9	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.7	0	0
NE	.5	1.7	0	0
ENE	.8	1.8	0	0
E	.9	2.1	0	0
ESE	1.1	2.2	0	0
SE	.9	2.2	0	0
SSE	.7	2.1	0	0
S	.7	1.8	0	0
SSW	1.0	2.5	0	0
SW	2.0	3.8	43	42
WSW	2.5	4.1	34	41
W	1.7	3.1	14	9
WNW	1.4	2.7	6	4
NW	1.4	2.4	2	4
NNW	.8	2.3	0	0
N	.2	1.8	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	3.0	4	3
NE	1.4	3.3	40	29
ENE	.8	2.6	4	5
E	.7	2.5	1	1
ESE	.5	2.1	0	0
SE	.8	2.6	0	0
SSE	.8	2.4	0	0
S	.5	1.6	0	0
SSW	.7	1.8	0	0
SW	.1	1.6	0	0
WSW	.5	1.6	0	0
W	.6	1.7	0	0
WNW	1.0	2.2	14	15
NW	.8	2.3	9	14
NNW	1.2	2.7	27	31
N	1.0	2.4	0	2

TABLE E-290
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.2	0	0
NE	.8	2.2	0	0
ENE	1.2	2.8	1	1
E	1.2	2.5	1	0
ESE	1.6	2.7	4	3
SE	1.3	2.5	0	0
SSE	1.0	2.5	0	0
S	1.4	2.7	2	2
SSW	1.6	3.2	2	3
SW	1.4	3.0	13	18
WSW	1.4	3.3	4	4
W	1.3	3.1	6	5
WNW	1.4	2.8	26	21
NW	1.3	2.5	12	14
NNW	1.6	2.9	30	28
N	.6	1.9	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.3	0	0
NE	.7	2.0	0	0
ENE	.6	1.8	0	0
E	.5	1.8	0	0
ESE	.7	2.2	0	0
SE	.9	2.1	0	0
SSE	.7	2.1	0	0
S	.4	2.1	0	0
SSW	.7	2.6	0	0
SW	.8	2.7	0	0
WSW	1.6	3.5	14	20
W	1.1	2.5	2	2
WNW	1.3	2.7	29	27
NW	1.4	3.0	56	50
NNW	.8	2.0	0	0
N	.5	1.4	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.4	0	0
NE	.8	2.2	0	0
ENE	1.1	2.6	0	1
E	1.3	2.4	1	0
ESE	1.6	2.6	2	2
SE	1.2	2.4	0	0
SSE	1.0	2.4	0	0
S	1.4	2.9	1	1
SSW	1.6	3.1	1	2
SW	1.3	3.0	3	7
WSW	1.5	3.4	4	5
W	1.4	3.2	9	7
WNW	1.5	2.9	32	27
NW	1.4	2.7	19	20
NNW	1.6	2.9	27	27
N	.6	2.2	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	3.0	0	0
NE	.7	1.6	0	0
ENE	.5	1.9	0	0
E	.7	2.0	0	0
ESE	.8	2.0	0	0
SE	.9	2.0	0	0
SSE	.7	1.9	0	0
S	.5	2.2	0	0
SSW	.7	2.3	0	0
SW	.8	2.6	0	0
WSW	1.9	3.8	23	31
W	1.4	3.1	10	8
WNW	1.5	3.2	35	30
NW	1.5	3.1	33	31
NNW	.8	2.2	0	0
N	.5	1.7	0	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.7	0	0
NE	.9	2.1	0	0
ENE	.9	2.0	0	0
E	1.4	2.6	3	2
ESE	1.6	2.8	8	7
SE	1.4	2.6	0	0
SSE	1.0	2.5	0	0
S	.8	2.3	0	0
SSW	.9	2.7	0	0
SW	1.0	2.9	1	2
WSW	1.4	3.1	5	7
W	1.4	2.9	13	11
WNW	1.4	2.8	39	34
NW	1.3	2.5	25	26
NNW	1.3	2.5	6	10
N	.6	2.3	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-291
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.2	0	0
NE	.8	2.2	0	0
ENE	1.2	2.8	1	1
E	1.2	2.5	1	0
ESE	1.6	2.7	1	1
SE	1.3	2.5	0	0
SSE	1.0	2.5	0	0
S	1.4	2.7	1	1
SSW	1.6	3.2	1	2
SW	1.4	3.0	17	22
WSW	1.4	3.3	7	8
W	1.3	3.1	21	16
WNW	1.4	2.8	23	18
NW	1.3	2.5	8	10
NNW	1.6	2.9	18	20
N	.6	1.9	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	2.3	0	0
NE	.7	2.0	0	0
ENE	.6	1.8	0	0
E	.5	1.8	0	0
ESE	.7	2.2	0	0
SE	.9	2.1	0	0
SSE	.7	2.1	0	0
S	.4	2.1	0	0
SSW	.7	2.6	0	0
SW	.8	2.7	1	3
WSW	1.6	3.5	19	25
W	1.1	2.5	6	5
WNW	1.3	2.7	27	24
NW	1.4	3.0	48	42
NNW	.8	2.0	0	1
N	.5	1.4	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.4	0	0
NE	.8	2.2	0	0
ENE	1.1	2.6	1	1
E	1.3	2.4	1	0
ESE	1.6	2.6	0	1
SE	1.2	2.4	0	0
SSE	1.0	2.4	0	0
S	1.4	2.9	1	1
SSW	1.6	3.1	1	2
SW	1.3	3.0	10	15
WSW	1.5	3.4	8	9
W	1.4	3.2	23	18
WNW	1.5	2.9	25	20
NW	1.4	2.7	13	14
NNW	1.6	2.9	18	20
N	.6	2.2	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.0	3.0	0	0
NE	.7	1.6	0	0
ENE	.5	1.9	0	0
E	.7	2.0	0	0
ESE	.8	2.0	0	0
SE	.9	2.0	0	0
SSE	.7	1.9	0	0
S	.5	2.2	0	0
SSW	.7	2.3	0	0
SW	.8	2.6	0	1
WSW	1.9	3.6	20	27
W	1.4	3.1	15	13
WNW	1.5	3.2	32	28
NW	1.5	3.1	33	31
NNW	.8	2.2	0	0
N	.5	1.7	0	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.7	0	0
NE	.9	2.1	0	0
ENE	.9	2.0	0	0
E	1.4	2.6	2	1
ESE	1.6	2.8	3	3
SE	1.4	2.6	0	0
SSE	1.0	2.5	0	0
S	.8	2.3	0	0
SSW	.9	2.7	0	0
SW	1.0	2.9	10	15
WSW	1.4	3.1	9	11
W	1.4	2.9	18	14
WNW	1.4	2.8	35	28
NW	1.3	2.5	14	15
NNW	1.3	2.5	9	13
N	.6	2.3	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-292
EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 62

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.7	0	0
NE	1.5	3.4	11	8
ENE	1.4	3.2	6	5
E	1.5	2.9	4	2
ESE	1.7	2.8	10	9
SE	1.5	2.8	0	0
SSE	1.2	2.7	0	0
S	1.5	3.0	3	3
SSW	1.3	3.1	0	0
SW	1.2	2.7	1	4
WSW	1.6	3.9	7	8
W	1.4	3.6	15	13
WNW	1.3	2.7	16	14
NW	1.2	2.8	6	9
NNW	1.5	2.9	21	24
N	.8	2.1	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.0	0	0
NE	.8	1.9	0	0
ENE	.9	2.0	0	0
E	.7	2.3	0	0
ESE	.5	1.9	0	0
SE	.7	1.8	0	0
SSE	.9	2.2	0	0
S	.6	1.8	0	0
SSW	.6	1.9	0	0
SW	.4	1.7	0	0
WSW	.5	1.6	0	0
W	1.5	2.5	14	14
WNW	1.6	2.7	50	48
NW	1.5	2.5	37	38
NNW	1.0	2.1	0	1
N	.9	2.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 62

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.0	2.5	0	0
NE	.9	2.3	0	0
ENE	1.3	3.2	2	2
E	1.6	2.8	5	3
ESE	1.8	2.8	10	9
SE	1.4	2.6	0	0
SSE	1.2	2.6	0	0
S	1.6	2.9	2	3
SSW	1.4	3.3	0	0
SW	1.3	2.7	3	6
WSW	1.6	3.8	6	7
W	1.6	3.7	18	15
WNW	1.4	2.9	16	14
NW	1.3	2.7	8	11
NNW	1.7	3.0	31	31
N	1.0	2.3	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	1.8	0	0
NE	.7	2.1	0	0
ENE	1.0	2.4	0	0
E	1.0	2.3	0	0
ESE	1.4	2.6	0	1
SE	.5	1.9	0	0
SSE	.6	1.8	0	0
S	.6	2.2	0	0
SSW	.7	2.0	0	0
SW	.3	1.7	0	0
WSW	1.0	1.9	0	0
W	1.5	2.5	16	16
WNW	1.5	2.8	35	34
NW	1.6	2.6	48	47
NNW	1.1	2.2	0	2
N	.9	2.1	0	0

LOCATION 72

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.5	1.8	0	0
NE	1.8	3.9	71	52
ENE	1.0	2.6	3	4
E	.5	2.0	0	0
ESE	.6	1.9	0	0
SE	.5	2.1	0	0
SSE	.9	2.4	0	0
S	.7	2.2	0	0
SSW	1.3	2.5	3	6
SW	.7	1.8	0	1
WSW	1.0	2.1	1	2
W	.8	1.8	1	1
WNW	.8	1.6	2	4
NW	.8	2.0	1	3
NNW	1.1	2.4	14	23
N	1.0	2.2	0	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.5	1.7	0	0
NE	.5	1.5	0	0
ENE	.6	1.8	1	1
E	.9	2.0	16	11
ESE	1.1	2.4	62	52
SE	.7	1.9	0	0
SSE	.7	1.6	0	0
S	.4	1.8	0	0
SSW	.4	1.9	0	0
SW	.5	1.7	0	2
WSW	.8	2.1	7	11
W	.5	1.6	0	0
WNW	.2	1.8	0	0
NW	.7	1.8	13	18
NNW	.6	1.7	1	3
N	.5	1.3	0	0

TABLE E-293

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 62

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.7	0	0
NE	1.5	3.4	11	7
ENE	1.4	3.2	8	7
E	1.5	2.9	2	1
ESE	1.7	2.8	1	1
SE	1.5	2.8	0	0
SSE	1.2	2.7	0	0
S	1.5	3.0	1	1
SSW	1.3	3.1	0	0
SW	1.2	2.7	2	5
WSW	1.6	3.9	12	16
W	1.4	3.6	39	32
WNW	1.3	2.7	10	9
NW	1.2	2.8	5	7
NNW	1.5	2.9	9	13
N	.8	2.1	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.9	2.0	0	0
NE	.8	1.9	0	0
ENE	.9	2.0	0	0
E	.7	2.3	0	0
ESE	.5	1.9	0	0
SE	.7	1.8	0	0
SSE	.9	2.2	0	0
S	.6	1.8	0	0
SSW	.6	1.9	0	0
SW	.4	1.7	0	0
WSW	.5	1.6	0	0
W	1.5	2.5	16	15
WNW	1.6	2.7	49	46
NW	1.5	2.5	36	37
NNW	1.0	2.1	0	2
N	.9	2.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 62

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	1.0	2.5	0	0
NE	.9	2.3	0	0
ENE	1.3	3.2	4	3
E	1.6	2.8	2	1
ESE	1.8	2.8	2	2
SE	1.4	2.6	0	0
SSE	1.2	2.6	0	0
S	1.6	2.9	1	1
SSW	1.4	3.3	0	1
SW	1.3	2.7	2	6
WSW	1.6	3.8	13	16
W	1.6	3.7	42	33
WNW	1.4	2.9	15	13
NW	1.3	2.7	6	8
NNW	1.7	3.0	13	16
N	1.0	2.3	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.8	1.8	0	0
NE	.7	2.1	0	0
ENE	1.0	2.4	1	2
E	1.0	2.3	1	0
ESE	1.4	2.6	2	2
SE	.5	1.9	0	0
SSE	.6	1.8	0	0
S	.6	2.2	0	0
SSW	.7	2.0	0	0
SW	.3	1.7	0	0
WSW	1.0	1.9	0	0
W	1.5	2.5	14	13
WNW	1.5	2.8	43	40
NW	1.6	2.6	39	39
NNW	1.1	2.2	2	5
N	.9	2.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.5	1.8	0	0
NE	1.8	3.9	75	56
ENE	1.0	2.6	7	9
E	.5	2.0	0	0
ESE	.6	1.9	0	0
SE	.5	2.1	0	0
SSE	.9	2.4	0	0
S	.7	2.2	0	0
SSW	1.3	2.5	1	3
SW	.7	1.8	0	1
WSW	1.0	2.1	1	1
W	.8	1.8	0	0
WNW	.8	1.6	0	1
NW	.8	2.0	0	2
NNW	1.1	2.4	14	23
N	1.0	2.2	0	2

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SPR	FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-294

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.6	0	0
NE	.9	2.0	3	4
ENE	1.1	2.4	10	11
E	1.2	2.4	9	8
ESE	1.7	3.0	79	74
SE	1.3	2.7	0	2
SSE	.9	2.2	0	0
S	.8	2.0	0	0
SSW	.7	2.5	0	0
SW	.7	2.0	0	1
WSW	.7	2.0	0	0
W	.8	1.8	0	1
WNW	.5	1.7	0	0
NW	.2	1.9	0	0
NNW	.6	1.7	0	1
N	.5	1.7	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.0	0	0
NE	.7	2.3	0	0
ENE	.9	2.1	1	1
E	.9	2.6	0	0
ESE	1.8	3.6	84	69
SE	1.5	3.3	1	3
SSE	1.0	2.8	0	0
S	1.0	2.5	1	1
SSW	1.1	2.4	0	1
SW	.3	1.8	0	0
WSW	.7	1.9	0	0
W	.9	1.9	4	4
WNW	.7	1.6	0	1
NW	.7	1.4	0	1
NNW	.8	1.8	0	2
N	1.5	2.8	8	15

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 73

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.6	0	0
NE	1.0	2.9	2	1
ENE	1.5	3.1	26	20
E	1.4	2.9	10	6
ESE	1.2	2.7	2	3
SE	1.0	2.6	0	0
SSE	1.1	2.5	0	0
S	1.0	2.4	0	1
SSW	1.5	2.9	8	8
SW	.8	2.2	0	0
WSW	1.4	2.6	11	14
W	1.1	2.4	9	8
WNW	1.0	2.6	5	5
NW	1.1	2.5	12	15
NNW	1.2	2.7	14	18
N	1.1	2.8	0	1

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.7	0	0
NE	1.2	2.8	14	10
ENE	1.0	2.4	5	5
E	1.2	2.8	8	5
ESE	1.4	2.7	27	23
SE	1.3	2.4	0	1
SSE	1.2	2.5	0	1
S	1.0	2.2	1	1
SSW	1.4	2.6	8	8
SW	.3	1.8	0	0
WSW	.6	1.9	0	0
W	.5	1.7	0	0
WNW	.7	2.0	1	1
NW	1.0	2.1	15	19
NNW	1.1	2.1	21	25
N	.9	2.1	0	1

LOCATION 76

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.0	0	0
NE	1.3	2.7	6	7
ENE	2.4	3.8	70	62
E	1.8	3.4	20	21
ESE	1.5	3.1	4	9
SE	.9	2.4	0	0
SSE	.6	1.9	0	0
S	.7	1.9	0	0
SSW	1.0	2.3	0	0
SW	.1	1.9	0	0
WSW	.9	2.2	0	0
W	.6	1.9	0	0
WNW	.5	1.8	0	0
NW	.6	1.6	0	0
NNW	.8	1.8	0	1
N	.9	2.1	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.7	0	0
NE	.8	2.7	0	0
ENE	.9	3.0	0	0
E	1.8	3.3	15	11
ESE	2.3	3.7	74	64
SE	1.7	3.0	0	1
SSE	1.4	2.6	0	0
S	1.4	2.9	3	4
SSW	1.3	3.0	0	1
SW	.8	2.0	0	0
WSW	1.5	2.6	4	8
W	.8	2.1	0	0
WNW	1.0	2.0	1	2
NW	1.0	2.0	1	3
NNW	1.1	2.4	1	5
N	1.0	2.3	0	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.4	0	0
NE	.1	1.5	0	0
ENE	.4	1.7	1	1
E	.5	1.6	3	2
ESE	.5	1.5	2	2
SE	.1	1.3	0	0
SSE	.5	1.6	0	1
S	.2	1.7	0	0
SSW	.6	1.9	7	7
SW	.1	1.6	0	0
WSW	.7	1.7	35	46
W	.1	1.5	0	0
WNW	.1	1.4	0	0
NW	.1	1.4	0	0
NNW	.1	1.4	0	0
N	.3	1.5	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-295

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.6	0	0
NE	.9	2.0	4	3
ENE	1.1	2.4	14	14
E	1.2	2.4	10	8
ESE	1.7	3.0	67	60
SE	1.3	2.7	1	2
SSE	.9	2.2	0	0
S	.8	2.0	0	1
SSW	.7	2.5	0	2
SW	.7	2.0	1	4
WSW	.7	2.0	0	1
W	.8	1.8	2	3
WNW	.5	1.7	0	1
NW	.2	1.9	0	0
NNW	.6	1.7	0	1
N	.5	1.7	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.0	0	0
NE	.7	2.3	2	2
ENE	.9	2.1	2	3
E	.9	2.6	4	3
ESE	1.8	3.6	78	65
SE	1.5	3.3	1	3
SSE	1.0	2.8	0	1
S	1.0	2.5	3	4
SSW	1.1	2.4	1	2
SW	.3	1.8	0	0
WSW	.7	1.9	0	0
W	.9	1.9	4	4
WNW	.7	1.6	0	1
NW	.7	1.4	0	1
NNW	.8	1.8	0	2
N	1.5	2.8	5	11

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 73

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.6	0	0
NE	1.0	2.9	8	5
ENE	1.5	3.1	22	17
E	1.4	2.9	9	5
ESE	1.2	2.7	2	2
SE	1.0	2.6	0	0
SSE	1.1	2.5	0	0
S	1.0	2.4	1	1
SSW	1.5	2.9	5	5
SW	.8	2.2	0	1
WSW	1.4	2.6	6	8
W	1.1	2.4	7	6
WNW	1.0	2.6	13	12
NW	1.1	2.5	12	14
NNW	1.2	2.7	14	18
N	1.1	2.8	1	3

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.7	0	0
NE	1.2	2.8	21	15
ENE	1.0	2.4	8	7
E	1.2	2.8	10	7
ESE	1.4	2.7	16	15
SE	1.3	2.4	0	1
SSE	1.2	2.5	0	1
S	1.0	2.2	1	2
SSW	1.4	2.6	4	5
SW	.3	1.8	0	0
WSW	.6	1.9	0	0
W	.5	1.7	0	0
WNW	.7	2.0	4	5
NW	1.0	2.1	19	22
NNW	1.1	2.1	15	20
N	.9	2.1	0	1

LOCATION 76

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.8	2.0	0	0
NE	1.3	2.7	10	11
ENE	2.4	3.8	58	51
E	1.8	3.4	24	23
ESE	1.5	3.1	8	14
SE	.9	2.4	0	0
SSE	.6	1.9	0	0
S	.7	1.9	0	0
SSW	1.0	2.3	0	0
SW	.1	1.9	0	0
WSW	.9	2.2	0	0
W	.6	1.9	0	0
WNW	.5	1.8	0	0
NW	.6	1.6	0	0
NNW	.8	1.8	0	1
N	.9	2.1	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.7	0	0
NE	.8	2.7	1	1
ENE	.9	3.0	2	3
E	1.8	3.3	21	15
ESE	2.3	3.7	62	53
SE	1.7	3.0	0	1
SSE	1.4	2.6	0	0
S	1.4	2.9	4	5
SSW	1.3	3.0	1	3
SW	.8	2.0	0	1
WSW	1.5	2.6	4	7
W	.8	2.1	0	0
WNW	1.0	2.0	1	2
NW	1.0	2.0	0	2
NNW	1.1	2.4	2	6
N	1.0	2.3	0	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.1	1.4	0	0
NE	.1	1.5	23	15
ENE	.4	1.7	5	5
E	.5	1.6	1	0
ESE	.5	1.5	3	2
SE	.1	1.3	0	0
SSE	.5	1.6	0	0
S	.2	1.7	1	1
SSW	.6	1.9	10	8
SW	.1	1.6	2	4
WSW	.7	1.7	30	39
W	.1	1.5	0	0
WNW	.1	1.4	1	1
NW	.1	1.4	0	0
NNW	.1	1.4	22	23
N	.3	1.5	0	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-296

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.5	0	0
NE	.7	1.7	0	0
ENE	.1	2.0	0	0
E	.5	1.9	0	0
ESE	1.5	2.8	47	43
SE	1.6	3.0	3	7
SSE	1.5	3.1	3	3
S	1.4	3.0	29	29
SSW	1.4	3.0	19	17
SW	.6	1.6	0	0
WSW	.6	1.6	0	0
W	.5	1.5	0	0
WNW	.6	1.6	0	0
NW	.5	1.8	0	0
NNW	.3	1.6	0	0
N	.7	1.4	0	0

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.3	3.6	17	12
NE	2.1	3.5	27	19
ENE	1.7	3.4	7	7
E	.7	2.5	0	0
ESE	2.2	3.6	21	20
SE	2.1	3.6	0	2
SSE	1.8	3.4	0	1
S	1.2	2.7	0	0
SSW	1.4	2.8	0	0
SW	.5	1.4	0	0
WSW	.5	1.5	0	0
W	.1	1.4	0	0
WNW	.5	1.8	0	0
NW	.7	1.9	0	0
NNW	1.6	2.7	13	18
N	2.4	3.3	14	22

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.4	0	0
NE	1.8	3.0	14	11
ENE	2.0	3.4	26	21
E	1.7	2.9	5	4
ESE	1.2	2.3	0	0
SE	.6	1.6	0	0
SSE	.4	1.5	0	0
S	.6	1.8	0	0
SSW	.3	1.1	0	0
SW	.5	1.3	0	0
WSW	.3	1.3	0	0
W	.8	1.6	0	0
WNW	1.3	2.2	4	5
NW	1.6	2.6	34	37
NNW	1.6	2.5	17	23
N	.9	2.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.6	0	0
NE	.1	1.6	0	0
ENE	.1	2.1	0	0
E	.7	2.0	3	1
ESE	.9	2.4	19	15
SE	.9	2.0	1	2
SSE	1.1	2.7	4	4
S	.9	2.4	18	15
SSW	.6	1.4	0	0
SW	.6	1.8	9	13
WSW	.4	1.4	0	0
W	.1	1.2	0	0
WNW	.6	1.5	24	19
NW	.2	1.5	0	0
NNW	.7	1.6	19	21
N	.9	1.7	6	10

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.8	1	1
NE	.9	2.1	1	1
ENE	1.2	2.6	6	6
E	1.3	2.5	4	3
ESE	1.6	2.6	19	17
SE	.9	1.9	0	0
SSE	.3	1.5	0	0
S	.6	1.9	0	0
SSW	.9	1.7	0	0
SW	.1	1.6	0	0
WSW	.8	1.6	0	0
W	.6	1.7	0	0
WNW	.7	1.9	0	0
NW	.5	1.8	0	0
NNW	1.5	2.5	54	48
N	1.8	2.8	17	24

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.5	3.0	1	1
NE	2.0	3.2	31	24
ENE	2.2	3.4	33	27
E	1.9	2.9	11	9
ESE	1.6	2.4	1	2
SE	.8	1.7	0	0
SSE	.8	2.1	0	0
S	.6	1.9	0	0
SSW	.6	1.4	0	0
SW	.3	1.2	0	0
WSW	.5	1.4	0	0
W	.8	1.6	0	0
WNW	1.1	2.1	1	2
NW	1.4	2.5	15	22
NNW	1.4	2.5	6	12
N	.7	2.0	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.7	0	0
NE	.1	1.8	0	0
ENE	.1	1.9	0	0
E	.6	1.9	1	0
ESE	.9	2.2	19	16
SE	1.0	2.4	1	2
SSE	1.0	2.5	2	2
S	.6	1.8	0	0
SSW	.6	1.7	0	0
SW	.4	1.4	0	0
WSW	.4	1.3	0	0
W	.5	1.8	0	0
WNW	.8	1.8	57	48
NW	.5	1.4	1	2
NNW	.6	1.9	4	8
N	1.1	2.0	16	21

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.8	1	0
NE	.7	2.5	0	0
ENE	1.2	2.6	3	3
E	1.1	2.3	0	0
ESE	.5	1.6	0	0
SE	.4	1.7	0	0
SSE	.5	1.7	0	0
S	.2	1.7	0	0
SSW	.8	1.7	0	0
SW	.6	1.8	0	0
WSW	.7	1.7	0	0
W	.3	2.0	0	0
WNW	1.3	2.8	17	16
NW	1.0	2.2	1	4
NNW	1.7	2.8	59	51
N	2.0	3.1	19	25

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.8	0	0
NE	1.8	3.3	26	23
ENE	2.1	3.2	43	38
E	1.9	3.0	20	19
ESE	1.7	2.5	10	15
SE	.7	2.0	0	0
SSE	.7	1.9	0	0
S	.8	2.0	0	0
SSW	.9	1.9	0	0
SW	.4	1.8	0	0
WSW	.5	1.9	0	0
W	.7	1.6	0	0
WNW	.7	1.8	0	0
NW	.9	2.1	0	1
NNW	1.0	2.0	0	3
N	.7	2.1	0	0

TABLE E-297

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.7	1.5	0	0
NE	.7	1.7	0	0
ENE	.1	2.0	0	0
E	.5	1.9	0	0
ESE	1.5	2.8	37	35
SE	1.6	3.0	2	6
SSE	1.5	3.1	3	4
S	1.4	3.0	33	33
SSW	1.4	3.0	25	22
SW	.6	1.6	0	0
WSW	.6	1.6	0	0
W	.5	1.5	0	0
WNW	.6	1.6	0	0
NW	.5	1.8	0	0
NNW	.3	1.6	0	0
N	.7	1.4	0	0

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	2.3	3.6	13	9
NE	2.1	3.5	27	20
ENE	1.7	3.4	16	14
E	.7	2.5	0	0
ESE	2.2	3.6	21	20
SE	2.1	3.6	0	2
SSE	1.8	3.4	0	1
S	1.2	2.7	0	1
SSW	1.4	2.8	0	1
SW	.5	1.4	0	0
WSW	.5	1.5	0	0
W	.1	1.4	0	0
WNW	.5	1.8	0	0
NW	.7	1.9	0	0
NNW	1.6	2.7	14	20
N	2.4	3.3	7	14

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.4	0	0
NE	1.8	3.0	19	14
ENE	2.0	3.4	27	22
E	1.7	2.9	6	4
ESE	1.2	2.3	0	0
SE	.6	1.6	0	0
SSE	.4	1.5	0	0
S	.6	1.8	0	0
SSW	.3	1.1	0	0
SW	.5	1.3	0	0
WSW	.3	1.3	0	0
W	.8	1.6	0	0
WNW	1.3	2.2	3	4
NW	1.6	2.6	30	33
NNW	1.6	2.5	14	21
N	.9	2.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.6	0	0
NE	.1	1.6	7	6
ENE	.1	2.1	1	1
E	.7	2.0	3	2
ESE	.9	2.4	13	13
SE	.9	2.0	0	1
SSE	1.1	2.7	3	4
S	.9	2.4	19	18
SSW	.6	1.4	0	0
SW	.6	1.8	3	8
WSW	.4	1.4	0	0
W	.1	1.2	50	45
WNW	.6	1.5	0	0
NW	.2	1.5	0	2
NNW	.7	1.6	0	0
N	.9	1.7	0	1

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.2	2.8	6	4
NE	.9	2.1	2	2
ENE	1.2	2.6	16	14
E	1.3	2.5	8	6
ESE	1.6	2.6	11	11
SE	.9	1.9	0	0
SSE	.3	1.5	0	0
S	.6	1.9	0	0
SSW	.9	1.7	0	0
SW	.1	1.6	0	0
WSW	.8	1.6	0	0
W	.6	1.7	0	0
WNW	.7	1.9	1	1
NW	.5	1.8	0	2
NNW	1.5	2.5	45	43
N	1.8	2.8	10	17

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.5	3.0	4	3
NE	2.0	3.2	31	24
ENE	2.2	3.4	31	26
E	1.9	2.9	8	6
ESE	1.6	2.4	0	1
SE	.8	1.7	0	0
SSE	.8	2.1	0	0
S	.6	1.9	0	0
SSW	.6	1.4	0	0
SW	.3	1.2	0	0
WSW	.5	1.4	0	0
W	.8	1.6	0	0
WNW	1.1	2.1	1	2
NW	1.4	2.5	17	24
NNW	1.4	2.5	6	13
N	.7	2.0	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.7	0	0
NE	.1	1.8	0	0
ENE	.1	1.9	1	1
E	.6	1.9	6	3
ESE	.9	2.2	19	16
SE	1.0	2.4	1	3
SSE	1.0	2.5	2	2
S	.6	1.8	1	1
SSW	.6	1.7	0	0
SW	.4	1.4	0	1
WSW	.4	1.3	0	0
W	.5	1.8	1	1
WNW	.8	1.8	49	42
NW	.5	1.4	0	0
NNW	.6	1.9	16	20
N	1.1	2.0	4	10

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.3	2.8	2	2
NE	.7	2.5	1	1
ENE	1.2	2.6	5	5
E	1.1	2.3	1	1
ESE	.5	1.6	0	0
SE	.4	1.7	0	0
SSE	.5	1.7	0	0
S	.2	1.7	0	0
SSW	.8	1.7	0	0
SW	.6	1.8	0	0
WSW	.7	1.7	0	0
W	.3	2.0	0	0
WNW	1.3	2.8	40	35
NW	1.0	2.2	3	6
NNW	1.7	2.8	41	36
N	2.0	3.1	7	13

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	1.1	2.8	2	2
NE	1.8	3.3	36	29
ENE	2.1	3.2	37	32
E	1.9	3.0	16	14
ESE	1.7	2.5	4	7
SE	.7	2.0	0	0
SSE	.7	1.9	0	0
S	.8	2.0	0	0
SSW	.9	1.9	0	0
SW	.4	1.8	0	0
WSW	.5	1.9	0	0
W	.7	1.6	0	0
WNW	.7	1.8	0	0
NW	.9	2.1	2	8
NNW	1.0	2.0	2	7
N	.7	2.1	0	0

TABLE E-298

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.3	3	2
NE	.5	1.8	0	0
ENE	.1	2.0	0	0
E	.7	2.1	0	0
ESE	1.2	2.8	37	28
SE	.9	2.7	0	0
SSE	.7	2.1	0	0
S	.7	1.5	0	0
SSW	.5	2.5	0	0
SW	.8	1.8	11	17
WSW	.7	1.6	0	0
W	.4	1.6	0	0
WNW	.8	1.8	31	27
NW	.6	1.5	0	1
NNW	.6	1.7	0	1
N	1.2	2.6	19	24

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.6	0	0
NE	1.7	3.5	77	57
ENE	.8	2.2	0	1
E	.1	1.6	0	0
ESE	.3	2.0	0	0
SE	.1	2.0	0	0
SSE	.9	2.3	0	0
S	.7	2.3	0	0
SSW	1.1	2.6	1	2
SW	.7	1.7	0	2
WSW	1.0	2.0	2	4
W	.6	1.7	0	0
WNW	.8	1.6	3	5
NW	.6	1.9	0	1
NNW	1.0	2.5	13	22
N	1.1	2.5	1	4

2000 FULL-BUILD POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.4	0	0
NE	.1	1.6	0	0
ENE	.5	1.7	0	0
E	1.1	2.0	31	23
ESE	1.2	2.2	61	54
SE	.7	1.5	0	0
SSE	.5	1.4	0	0
S	.1	1.5	0	0
SSW	.1	1.6	0	0
SW	.1	2.1	0	0
WSW	.8	2.3	7	12
W	.5	2.0	0	0
WNW	.3	1.6	0	0
NW	.6	1.8	1	4
NNW	.6	1.9	2	6
N	.7	1.6	0	1

TABLE E-299

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.9	2.3	5	4
NE	.5	1.8	2	1
ENE	.1	2.0	0	0
E	.7	2.1	4	3
ESE	1.2	2.8	62	50
SE	.9	2.7	1	2
SSE	.7	2.1	0	0
S	.7	1.5	0	0
SSW	.5	2.5	1	2
SW	.8	1.8	0	1
WSW	.7	1.6	0	1
W	.4	1.6	0	1
WNW	.8	1.8	11	12
NW	.6	1.5	0	0
NNW	.6	1.7	1	4
N	1.2	2.6	12	19

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.6	1.6	0	0
NE	1.7	3.5	71	51
ENE	.8	2.2	2	3
E	.1	1.6	0	0
ESE	.3	2.0	0	0
SE	.1	2.0	0	0
SSE	.9	2.3	0	0
S	.7	2.3	0	0
SSW	1.1	2.6	2	3
SW	.7	1.7	0	1
WSW	1.0	2.0	1	3
W	.6	1.7	0	1
WNW	.8	1.6	2	3
NW	.6	1.9	0	2
NNW	1.0	2.5	19	27
N	1.1	2.5	1	4

2000 FULL-BUILD POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SPR	WEIGHT FALL
NNE	.5	1.4	0	0
NE	.1	1.6	17	11
ENE	.5	1.7	1	1
E	1.1	2.0	14	9
ESE	1.2	2.2	35	28
SE	.7	1.5	0	0
SSE	.5	1.4	0	0
S	.1	1.5	0	0
SSW	.1	1.6	0	1
SW	.1	2.1	0	1
WSW	.8	2.3	23	33
W	.5	2.0	5	4
WNW	.3	1.6	0	0
NW	.6	1.8	0	0
NNW	.6	1.9	5	9
N	.7	1.6	0	2

TABLE E-300

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.4	2.0	0	0
NE	.8	2.0	0	0
ENE	.9	2.2	0	0
E	1.5	2.9	0	0
ESE	1.8	2.9	1	1
SE	1.4	2.8	0	0
SSE	1.0	2.6	0	0
S	.8	2.7	0	0
SSW	.9	2.2	0	0
SW	1.4	3.2	2	2
WSW	2.6	4.2	90	70
W	1.7	3.4	1	16
WNW	1.5	3.0	5	8
NW	1.5	2.8	1	2
NNW	.4	1.7	0	0
N	1.1	2.2	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.1	2.9	0	1
NE	1.4	2.6	19	15
ENE	.8	2.5	0	2
E	1.0	2.2	0	1
ESE	1.6	2.8	31	25
SE	1.0	2.4	0	0
SSE	.6	2.1	0	0
S	.1	3.3	0	0
SSW	.7	2.6	0	0
SW	1.1	2.9	19	13
WSW	1.2	3.2	20	9
W	1.1	3.2	3	25
WNW	.9	2.7	4	6
NW	.8	2.4	0	1
NNW	.9	2.3	3	1
N	.8	2.4	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	2.8	0	0
NE	.5	1.8	0	0
ENE	.3	1.7	0	0
E	.8	2.2	0	0
ESE	1.2	2.7	0	0
SE	.9	1.9	0	0
SSE	.6	1.8	0	0
S	.5	1.9	0	0
SSW	.5	2.3	0	0
SW	.8	2.2	0	0
WSW	2.3	3.7	93	75
W	1.4	2.9	0	9
WNW	1.3	2.7	4	7
NW	1.4	2.6	2	7
NNW	.7	1.9	0	0
N	1.4	3.2	0	1

LOCATION 1

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.6	2.2	0	0
NE	1.1	2.6	1	0
ENE	1.4	2.9	0	4
E	1.6	3.0	0	2
ESE	2.1	3.2	12	9
SE	1.6	2.8	0	0
SSE	1.3	2.7	0	0
S	1.0	2.6	0	0
SSW	.9	2.4	0	0
SW	1.3	3.4	1	1
WSW	2.4	4.1	77	56
W	1.6	3.4	0	10
WNW	1.5	3.0	7	12
NW	1.5	2.8	2	5
NNW	.7	2.1	0	0
N	1.0	2.3	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.6	2.7	0	0
NE	1.6	3.1	26	20
ENE	1.3	2.7	4	16
E	.9	2.3	0	0
ESE	1.6	2.7	25	17
SE	1.1	2.2	0	0
SSE	.8	2.1	0	0
S	.5	1.8	0	0
SSW	.6	2.5	0	0
SW	1.2	3.2	17	10
WSW	1.5	3.1	16	5
W	1.2	3.4	4	28
WNW	.9	2.9	3	2
NW	.9	2.9	1	1
NNW	.9	2.6	2	0
N	.8	2.5	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	2.7	0	0
NE	.6	2.3	0	0
ENE	.7	2.1	0	0
E	.7	2.0	0	0
ESE	1.2	2.6	0	0
SE	1.0	2.1	0	0
SSE	.8	2.0	0	0
S	.7	2.2	0	0
SSW	.7	2.5	0	0
SW	.8	2.4	0	0
WSW	2.6	4.0	90	69
W	1.6	3.3	0	10
WNW	1.5	2.9	6	11
NW	1.6	2.9	4	10
NNW	.8	2.4	0	0
N	1.0	2.8	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.5	0	0
NE	.8	2.1	0	0
ENE	.6	1.8	0	0
E	.6	1.8	0	0
ESE	.8	2.0	0	0
SE	.9	2.0	0	0
SSE	1.1	2.2	0	0
S	1.1	2.6	0	0
SSW	1.4	2.9	0	0
SW	1.2	2.9	0	0
WSW	2.5	4.3	75	47
W	1.7	3.4	1	12
WNW	1.7	3.0	13	23
NW	1.8	3.0	9	18
NNW	1.3	3.3	2	0
N	1.3	3.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-301

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 1

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.4	2.0	0	0
NE	.8	2.0	0	0
ENE	.9	2.2	0	0
E	1.5	2.9	0	0
ESE	1.8	2.9	1	0
SE	1.4	2.8	0	0
SSE	1.0	2.6	0	0
S	.8	2.7	0	0
SSW	.9	2.2	0	0
SW	1.4	3.2	9	5
WSW	2.6	4.2	75	47
W	1.7	3.4	4	28
WNW	1.5	3.0	9	14
NW	1.5	2.8	2	5
NNW	.4	1.7	0	0
N	1.1	2.2	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.1	2.9	1	1
NE	1.4	2.6	10	6
ENE	.8	2.5	0	3
E	1.0	2.2	0	0
ESE	1.6	2.8	5	2
SE	1.0	2.4	0	0
SSE	.6	2.1	0	0
S	.1	3.3	0	0
SSW	.7	2.6	0	0
SW	1.1	2.9	30	15
WSW	1.2	3.2	21	6
W	1.1	3.2	17	52
WNW	.9	2.7	9	11
NW	.8	2.4	2	2
NNW	.9	2.3	4	1
N	.8	2.4	0	1

LOCATION 3

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	2.8	0	0
NE	.5	1.8	0	0
ENE	.3	1.7	0	0
E	.8	2.2	0	0
ESE	1.2	2.7	0	0
SE	.9	1.9	0	0
SSE	.6	1.8	0	0
S	.5	1.9	0	0
SSW	.5	2.3	0	0
SW	.8	2.2	0	0
WSW	2.3	3.7	81	50
W	1.4	2.9	2	17
WNW	1.3	2.7	10	16
NW	1.4	2.6	5	10
NNW	.7	1.9	0	0
N	1.4	3.2	1	7

LOCATION 1

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.6	2.2	0	0
NE	1.1	2.6	2	1
ENE	1.4	2.9	0	5
E	1.6	3.0	0	1
ESE	2.1	3.2	4	2
SE	1.6	2.8	0	0
SSE	1.3	2.7	0	0
S	1.0	2.6	0	0
SSW	.9	2.4	0	0
SW	1.3	3.4	11	6
WSW	2.4	4.1	65	38
W	1.6	3.4	3	23
WNW	1.5	3.0	10	17
NW	1.5	2.8	3	6
NNW	.7	2.1	0	0
N	1.0	2.3	0	0

LOCATION 2

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.6	2.7	0	0
NE	1.6	3.1	16	10
ENE	1.3	2.7	2	10
E	.9	2.3	0	0
ESE	1.6	2.7	3	1
SE	1.1	2.2	0	0
SSE	.8	2.1	0	0
S	.5	1.8	0	0
SSW	.6	2.5	0	0
SW	1.2	3.2	31	15
WSW	1.2	3.1	17	4
W	1.2	3.4	14	44
WNW	.9	2.9	10	11
NW	.9	2.9	3	3
NNW	.9	2.6	4	1
N	.8	2.5	0	0

LOCATION 3

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	2.7	0	0
NE	.6	2.3	0	0
ENE	.7	2.1	0	0
E	.7	2.0	0	0
ESE	1.2	2.6	0	0
SE	1.0	2.1	0	0
SSE	.8	2.0	0	0
S	.7	2.2	0	0
SSW	.7	2.5	0	0
SW	.8	2.4	0	0
WSW	2.6	4.0	78	48
W	1.6	3.3	3	21
WNW	1.5	2.9	11	17
NW	1.6	2.9	7	14
NNW	.8	2.4	1	0
N	1.0	2.8	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.5	0	0
NE	.8	2.1	0	0
ENE	.6	1.8	0	0
E	.6	1.8	0	0
ESE	.8	2.0	0	0
SE	.9	2.0	0	0
SSE	1.1	2.2	0	0
S	1.1	2.6	0	0
SSW	1.4	2.9	0	0
SW	1.2	2.9	4	2
WSW	2.5	4.3	65	36
W	1.7	3.4	4	24
WNW	1.7	3.0	11	16
NW	1.8	3.0	9	16
NNW	1.3	3.3	8	4
N	1.3	3.1	0	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-302

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	2.4	1	2
NE	.7	1.7	2	1
ENE	.4	1.5	0	0
E	.7	1.9	0	0
ESE	.6	1.6	0	0
SE	.3	1.4	0	0
SSE	.2	1.5	0	0
S	.5	1.7	0	0
SSW	.4	1.7	0	0
SW	.9	2.5	11	6
WSW	1.2	2.5	50	27
W	1.0	2.5	3	23
WNW	.8	2.4	7	10
NW	.9	2.6	8	16
NNW	1.0	2.3	15	13
N	.7	2.2	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 5

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	2.4	0	0
NE	1.2	2.4	2	0
ENE	.8	2.1	0	0
E	.4	1.7	0	0
ESE	.8	2.0	0	0
SE	.3	1.9	0	0
SSE	.1	2.3	0	0
S	.9	2.0	0	0
SSW	1.5	2.9	0	1
SW	1.3	2.5	4	1
WSW	1.9	3.5	47	16
W	1.5	3.0	1	7
WNW	1.7	3.1	35	63
NW	1.5	2.8	8	10
NNW	1.1	2.6	2	0
N	1.4	3.1	0	1

LOCATION 8

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	2.0	0	0
NE	.8	2.0	2	0
ENE	.7	1.9	0	0
E	1.1	2.1	0	1
ESE	1.5	2.7	33	18
SE	1.0	2.3	0	0
SSE	.7	1.8	0	0
S	.5	2.0	0	0
SSW	.6	2.0	0	0
SW	.4	1.7	0	0
WSW	.7	2.2	0	0
W	.6	2.0	0	0
WNW	.8	2.4	2	1
NW	.6	2.3	0	0
NNW	1.5	3.2	65	79
N	.8	2.1	0	0

LOCATION 10

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	1.9	0	0
NE	.9	2.2	3	1
ENE	.8	2.1	0	0
E	.8	1.9	0	0
ESE	.9	2.4	0	0
SE	1.5	2.6	1	1
SSE	1.3	2.3	1	0
S	.7	1.9	0	0
SSW	.9	2.0	0	0
SW	.5	1.7	0	0
WSW	.5	1.7	0	0
W	.6	1.8	0	0
WNW	1.0	2.3	7	2
NW	1.0	2.5	6	4
NNW	1.7	3.1	82	87
N	1.2	2.1	1	4

TABLE E-303

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	2.4	0	1
NE	.7	1.7	0	0
ENE	.4	1.5	0	0
E	.7	1.9	0	0
ESE	.6	1.6	0	0
SE	.3	1.4	0	0
SSE	.2	1.5	0	0
S	.5	1.7	0	0
SSW	.4	1.7	0	0
SW	.9	2.5	18	8
WSW	1.2	2.5	26	9
W	1.0	2.5	5	23
WNW	.8	2.4	15	20
NW	.9	2.6	20	32
NNW	1.0	2.3	14	8
N	.7	2.2	0	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 5

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	2.4	0	0
NE	1.2	2.4	3	1
ENE	.8	2.1	0	0
E	.4	1.7	0	0
ESE	.8	2.0	0	0
SE	.3	1.9	0	0
SSE	.1	2.3	0	0
S	.9	2.0	0	0
SSW	1.5	2.9	0	1
SW	1.3	2.5	5	2
WSW	1.9	3.5	45	16
W	1.5	3.0	4	18
WNW	1.7	3.1	26	43
NW	1.5	2.8	10	13
NNW	1.1	2.6	5	1
N	1.4	3.1	1	4

LOCATION 8

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	2.0	0	0
NE	.8	2.0	3	1
ENE	.7	1.9	0	1
E	1.1	2.1	0	0
ESE	1.5	2.7	15	6
SE	1.0	2.3	0	0
SSE	.7	1.8	0	0
S	.5	2.0	0	0
SSW	.6	2.0	0	0
SW	.4	1.7	0	0
WSW	.7	2.2	1	0
W	.6	2.0	0	0
WNW	.8	2.4	15	16
NW	.6	2.3	2	1
NNW	1.5	3.2	65	74
N	.8	2.1	0	0

LOCATION 10

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	1.9	0	0
NE	.9	2.2	4	1
ENE	.8	2.1	0	1
E	.8	1.9	0	0
ESE	.9	2.4	1	0
SE	1.5	2.6	0	0
SSE	1.3	2.3	0	0
S	.7	1.9	0	0
SSW	.9	2.0	0	0
SW	.5	1.7	0	0
WSW	.5	1.7	0	0
W	.6	1.8	0	0
WNW	1.0	2.3	10	7
NW	1.0	2.5	17	19
NNW	1.7	3.1	66	69
N	1.2	2.1	0	1

TABLE E-304

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.0	0	0
NE	1.1	2.2	26	18
ENE	.9	2.4	6	18
E	.6	2.0	0	0
ESE	.9	1.9	8	4
SE	.9	2.2	0	1
SSE	1.0	2.5	2	2
S	.9	2.2	7	9
SSW	.6	2.0	0	0
SW	.8	2.2	18	8
WSW	.6	2.1	2	3
W	.7	2.2	0	6
WNW	.7	2.2	7	7
NW	.8	1.8	10	16
NNW	.7	1.8	8	3
N	.3	1.8	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	0	0
NE	1.6	3.1	17	12
ENE	1.4	2.5	3	15
E	1.4	2.8	0	4
ESE	2.0	3.5	55	41
SE	1.5	3.0	0	0
SSE	1.0	2.6	0	0
S	.6	1.9	0	0
SSW	.8	1.9	0	0
SW	.9	2.2	1	0
WSW	1.1	2.3	3	0
W	.8	2.1	0	0
WNW	.8	1.8	0	0
NW	1.2	2.3	5	10
NNW	1.3	2.3	17	16
N	1.0	2.2	0	1

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.7	2	2
NE	1.3	2.8	16	8
ENE	1.2	2.5	3	11
E	1.3	2.5	0	6
ESE	1.4	2.4	21	8
SE	1.1	2.4	0	0
SSE	.9	2.1	0	0
S	.7	1.9	0	0
SSW	1.0	2.2	0	0
SW	.6	1.6	0	0
WSW	.8	1.8	0	0
W	.9	2.2	0	0
WNW	1.0	2.7	16	17
NW	1.2	2.7	27	38
NNW	1.1	2.1	12	6
N	1.0	2.2	0	1

LOCATION 14

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.6	1	2
NE	1.1	2.8	10	5
ENE	.9	2.3	0	3
E	.9	2.4	0	0
ESE	1.6	2.7	45	27
SE	1.5	2.7	3	2
SSE	1.5	2.8	3	2
S	.9	2.3	0	0
SSW	1.0	2.3	0	0
SW	.5	1.8	0	0
WSW	.7	1.8	0	0
W	.8	2.1	0	0
WNW	1.1	2.3	26	49
NW	.8	2.2	0	0
NNW	1.0	2.2	12	7
N	1.0	2.1	0	2

TABLE E-305

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.0	1	1
NE	1.1	2.2	15	9
ENE	.9	2.4	7	18
E	.6	2.0	0	0
ESE	.9	1.9	2	1
SE	.9	2.2	0	0
SSE	1.0	2.5	1	1
S	.9	2.2	5	6
SSW	.6	2.0	0	1
SW	.8	2.2	31	14
WSW	.6	2.1	8	1
W	.7	2.2	4	19
WNW	.7	2.2	18	26
NW	.8	1.8	1	1
NNW	.7	1.8	5	1
N	.3	1.8	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 11

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	0	0
NE	1.6	3.1	19	15
ENE	1.4	2.5	1	11
E	1.4	2.8	0	6
ESE	2.0	3.5	53	42
SE	1.5	3.0	1	1
SSE	1.0	2.6	0	0
S	.6	1.9	0	0
SSW	.8	1.9	0	0
SW	.9	2.2	3	2
WSW	1.1	2.3	6	1
W	.8	2.1	0	2
WNW	.8	1.8	0	0
NW	1.2	2.3	3	8
NNW	1.3	2.3	13	11
N	1.0	2.2	0	1

LOCATION 12

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.7	3	2
NE	1.3	2.8	16	7
ENE	1.2	2.5	2	9
E	1.3	2.5	0	2
ESE	1.4	2.4	6	1
SE	1.1	2.4	0	0
SSE	.9	2.1	0	0
S	.7	1.9	0	0
SSW	1.0	2.2	0	0
SW	.6	1.6	0	0
WSW	.8	1.8	1	0
W	.9	2.2	0	1
WNW	1.0	2.7	25	28
NW	1.2	2.7	35	42
NNW	1.1	2.1	12	4
N	1.0	2.2	0	3

LOCATION 14

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.6	2	2
NE	1.1	2.8	17	10
ENE	.9	2.3	1	8
E	.9	2.4	0	2
ESE	1.6	2.7	33	16
SE	1.5	2.7	1	1
SSE	1.5	2.8	2	1
S	.9	2.3	1	2
SSW	1.0	2.3	0	1
SW	.5	1.8	0	0
WSW	.7	1.8	0	0
W	.8	2.1	0	1
WNW	1.1	2.3	27	44
NW	.8	2.2	4	4
NNW	1.0	2.2	10	4
N	1.0	2.1	0	2

TABLE E-306

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.5	3	2
NE	1.7	3.4	36	23
ENE	1.1	2.6	2	9
E	1.2	2.7	0	3
ESE	1.1	2.5	2	0
SE	1.2	2.8	0	0
SSE	.8	2.1	0	0
S	.9	2.4	0	0
SSW	1.0	2.4	0	0
SW	.3	1.7	0	0
WSW	.9	2.0	1	0
W	.8	2.3	0	0
WNW	1.2	2.4	30	37
NW	.8	2.4	1	0
NNW	1.1	2.6	14	6
N	1.4	3.5	9	19

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.4	0	0
NE	1.5	3.0	10	6
ENE	1.7	2.8	5	18
E	2.0	3.3	4	18
ESE	2.4	3.8	79	58
SE	1.8	3.2	0	1
SSE	1.1	2.4	0	0
S	.6	1.8	0	0
SSW	.7	1.9	0	0
SW	.6	1.6	0	0
WSW	.8	1.8	0	0
W	.8	1.9	0	0
WNW	.8	2.0	0	0
NW	.9	2.0	0	0
NNW	.9	2.0	1	0
N	1.0	2.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.9	0	0
NE	2.0	4.0	28	20
ENE	2.1	3.5	22	33
E	2.0	3.5	6	19
ESE	2.0	3.5	30	18
SE	1.5	3.0	0	0
SSE	1.0	2.8	0	0
S	.8	2.6	0	0
SSW	1.1	2.9	0	0
SW	.6	1.9	0	0
WSW	1.2	2.7	4	0
W	1.0	2.5	0	0
WNW	1.1	2.2	3	1
NW	1.1	2.6	1	1
NNW	1.2	3.0	5	2
N	1.4	3.5	0	4

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.4	0	0
NE	1.2	2.3	13	8
ENE	1.3	2.3	8	21
E	1.5	2.8	8	22
ESE	1.7	2.8	66	46
SE	1.2	2.4	0	0
SSE	.8	2.0	0	0
S	.1	1.6	0	0
SSW	.6	1.9	0	0
SW	.1	1.8	0	0
WSW	.1	1.9	0	0
W	.5	1.8	0	0
WNW	.5	2.0	0	0
NW	.8	2.2	0	0
NNW	.9	2.2	4	2
N	.9	1.8	0	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	3.0	0	0
NE	2.3	4.1	33	25
ENE	2.3	3.4	23	33
E	2.2	3.6	6	19
ESE	2.2	3.4	31	20
SE	1.7	3.2	0	0
SSE	1.2	2.8	0	0
S	.7	2.6	0	0
SSW	1.1	2.8	0	0
SW	.6	2.1	0	0
WSW	1.1	2.9	0	0
W	1.0	2.5	0	0
WNW	1.0	2.4	0	0
NW	1.2	2.8	1	1
NNW	1.3	3.2	5	2
N	1.2	2.9	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.5	0	0
NE	1.5	3.1	22	15
ENE	1.6	2.7	13	27
E	1.6	3.0	3	16
ESE	1.8	3.3	54	37
SE	1.1	2.7	0	0
SSE	1.1	2.4	0	0
S	.8	2.2	0	0
SSW	.9	2.3	0	0
SW	.5	1.6	0	0
WSW	.3	1.7	0	0
W	.4	1.7	0	0
WNW	.8	1.9	0	0
NW	.8	1.9	0	0
NNW	1.0	2.1	7	3
N	1.0	2.0	0	1

TABLE E-307

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.5	2	1
NE	1.7	3.4	35	22
ENE	1.1	2.6	3	10
E	1.2	2.7	0	3
ESE	1.1	2.5	3	1
SE	1.2	2.8	0	0
SSE	.8	2.1	0	0
S	.9	2.4	0	0
SSW	1.0	2.4	0	0
SW	.3	1.7	0	0
WSW	.9	2.0	2	0
W	.8	2.3	0	2
WNW	1.2	2.4	18	19
NW	.8	2.4	3	2
NNW	1.1	2.6	20	11
N	1.4	3.5	14	28

LOCATION 15

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.4	0	0
NE	1.5	3.0	17	12
ENE	1.7	2.8	5	18
E	2.0	3.3	5	19
ESE	2.4	3.8	68	49
SE	1.8	3.2	2	2
SSE	1.1	2.4	0	0
S	.6	1.8	0	0
SSW	.7	1.9	0	0
SW	.6	1.6	0	0
WSW	.8	1.8	0	0
W	.8	1.9	0	0
WNW	.8	2.0	0	0
NW	.9	2.0	0	0
NNW	.9	2.0	2	0
N	1.0	2.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.9	0	0
NE	2.0	4.0	32	23
ENE	2.1	3.5	14	26
E	2.0	3.5	3	14
ESE	2.0	3.5	22	12
SE	1.5	3.0	0	0
SSE	1.0	2.8	0	0
S	.8	2.6	0	0
SSW	1.1	2.9	0	1
SW	.6	1.9	0	0
WSW	1.2	2.7	8	1
W	1.0	2.5	0	2
WNW	1.1	2.2	2	1
NW	1.1	2.6	3	4
NNW	1.2	3.0	11	6
N	1.4	3.5	2	8

LOCATION 16

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.4	1	2
NE	1.2	2.3	17	11
ENE	1.3	2.3	6	18
E	1.5	2.8	5	18
ESE	1.7	2.8	52	34
SE	1.2	2.4	0	1
SSE	.8	2.0	0	0
S	.1	1.6	0	0
SSW	.6	1.9	0	0
SW	.1	1.8	0	0
WSW	.1	1.9	0	0
W	.5	1.8	0	0
WNW	.5	2.0	1	0
NW	.8	2.3	3	4
NNW	.9	2.2	14	10
N	.9	1.8	0	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	3.0	0	0
NE	2.3	4.1	35	25
ENE	2.3	3.4	14	26
E	2.2	3.6	3	14
ESE	2.2	3.4	21	12
SE	1.7	3.2	0	0
SSE	1.2	2.8	0	0
S	.7	2.6	0	0
SSW	1.1	2.8	0	0
SW	.6	2.1	0	0
WSW	1.1	2.9	4	0
W	1.0	2.5	0	1
WNW	1.0	2.4	2	1
NW	1.2	2.8	4	5
NNW	1.3	3.2	16	11
N	1.2	2.9	0	2

LOCATION 17

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.5	0	1
NE	1.5	3.1	26	19
ENE	1.6	2.7	10	23
E	1.6	3.0	3	16
ESE	1.8	3.3	49	32
SE	1.1	2.7	0	0
SSE	1.1	2.4	0	0
S	.8	2.2	0	0
SSW	.9	2.3	0	0
SW	.5	1.6	0	0
WSW	.3	1.7	0	0
W	.4	1.7	0	0
WNW	.8	1.9	2	1
NW	.8	1.9	0	0
NNW	1.0	2.1	8	4
N	1.0	2.0	0	1

TABLE E-308

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	3.1	0	0
NE	1.7	3.3	14	9
ENE	2.2	3.5	22	33
E	2.1	3.5	5	19
ESE	2.2	3.6	49	33
SE	1.6	3.2	0	0
SSE	1.2	2.7	0	0
S	.8	2.8	0	0
SSW	.9	2.5	0	0
SW	.6	2.0	0	0
WSW	1.1	2.8	1	0
W	1.1	2.7	0	0
WNW	1.1	2.4	1	0
NW	1.2	2.5	1	1
NNW	1.3	3.0	6	3
N	.9	2.5	0	0

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.4	3.0	1	1
NE	2.0	3.5	27	19
ENE	2.1	3.4	22	32
E	1.9	3.2	3	14
ESE	2.0	3.4	30	18
SE	1.4	2.9	0	0
SSE	.9	2.6	0	0
S	.4	2.1	0	0
SSW	.7	2.3	0	0
SW	.5	2.0	0	0
WSW	1.1	2.8	1	0
W	1.2	2.8	0	1
WNW	1.2	2.6	7	7
NW	1.1	2.6	1	1
NNW	1.3	3.0	8	3
N	.7	2.3	0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	3.2	0	0
NE	1.0	2.2	4	1
ENE	1.2	2.5	2	10
E	1.4	2.5	1	6
ESE	1.7	3.0	53	24
SE	1.3	2.9	0	0
SSE	1.1	2.7	0	0
S	.7	2.4	0	0
SSW	.9	2.2	0	0
SW	.5	1.4	0	0
WSW	.9	2.2	2	0
W	1.2	2.4	4	14
WNW	1.2	2.2	32	45
NW	.9	2.3	1	0
NNW	.7	2.2	1	0
N	.7	1.9	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.4	0	0
NE	1.0	2.5	8	4
ENE	1.4	2.6	10	23
E	1.5	2.7	8	21
ESE	1.7	3.1	65	44
SE	1.0	2.5	0	0
SSE	.8	2.1	0	0
S	.5	2.1	0	0
SSW	1.0	2.1	0	0
SW	.5	1.3	0	0
WSW	.5	1.9	0	0
W	.5	1.6	0	0
WNW	.9	2.0	4	4
NW	.7	2.1	0	0
NNW	.9	2.1	5	2
N	.7	1.9	0	0

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.5	0	0
NE	1.5	3.1	27	19
ENE	1.6	2.8	26	36
E	1.5	2.9	5	18
ESE	1.4	2.8	23	14
SE	.7	2.5	0	0
SSE	.8	2.2	0	0
S	.6	2.2	0	0
SSW	1.3	2.7	8	6
SW	.7	1.5	0	0
WSW	.7	1.6	0	0
W	.7	2.0	0	0
WNW	.9	1.9	4	4
NW	.6	1.7	0	0
NNW	.8	2.0	2	0
N	.1	2.0	0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.8	3	3
NE	.8	2.4	7	2
ENE	.8	2.1	0	4
E	1.1	2.2	1	6
ESE	1.3	2.6	47	23
SE	1.0	2.3	0	0
SSE	.9	2.2	0	0
S	.4	2.0	0	0
SSW	1.0	2.2	1	2
SW	.6	1.4	0	0
WSW	.7	1.8	1	0
W	.8	1.9	0	2
WNW	1.0	2.6	35	56
NW	.6	1.8	0	0
NNW	.7	1.9	5	1
N	.8	1.9	0	1

TABLE E-309

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	3.1	1	2
NE	1.7	3.3	18	12
ENE	2.2	3.5	15	27
E	2.1	3.5	3	15
ESE	2.2	3.6	34	20
SE	1.6	3.2	0	0
SSE	1.2	2.7	0	0
S	.8	2.8	0	0
SSW	.9	2.5	0	0
SW	.6	2.0	0	0
WSW	1.1	2.8	6	1
W	1.1	2.7	0	5
WNW	1.1	2.4	4	3
NW	1.2	2.5	2	3
NNW	1.3	3.0	15	11
N	.9	2.5	0	0

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.4	3.0	2	2
NE	2.0	3.5	26	17
ENE	2.1	3.4	13	24
E	1.9	3.2	1	9
ESE	2.0	3.4	18	9
SE	1.4	2.9	0	0
SSE	.9	2.6	0	0
S	.4	2.1	0	0
SSW	.7	2.3	0	0
SW	.5	2.0	0	0
WSW	1.1	2.8	6	1
W	1.2	2.8	1	8
WNW	1.2	2.6	10	11
NW	1.1	2.6	3	4
NNW	1.3	3.0	19	13
N	.7	2.3	0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	3.2	4	4
NE	1.0	2.2	7	3
ENE	1.2	2.5	3	12
E	1.4	2.5	0	5
ESE	1.7	3.0	43	21
SE	1.3	2.9	0	0
SSE	1.1	2.7	1	0
S	.7	2.4	0	0
SSW	.9	2.2	0	0
SW	.5	1.4	0	0
WSW	.9	2.2	5	0
W	1.2	2.4	5	18
WNW	1.2	2.2	22	31
NW	.9	2.3	3	3
NNW	.7	2.2	5	1
N	.7	1.9	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 18

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.4	0	1
NE	1.0	2.5	12	7
ENE	1.4	2.6	7	19
E	1.5	2.7	4	16
ESE	1.7	3.1	53	34
SE	1.0	2.5	0	0
SSE	.8	2.1	0	0
S	.5	2.1	0	0
SSW	1.0	2.1	0	1
SW	.5	1.3	0	0
WSW	.5	1.9	0	0
W	.5	1.6	0	0
WNW	.9	2.0	9	11
NW	.7	2.1	2	3
NNW	.9	2.1	12	8
N	.7	1.9	0	0

LOCATION 19

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.5	1	2
NE	1.5	3.1	28	21
ENE	1.6	2.8	17	29
E	1.5	2.9	4	17
ESE	1.4	2.8	25	15
SE	.7	2.5	0	0
SSE	.8	2.2	0	0
S	.6	2.2	0	1
SSW	1.3	2.7	10	6
SW	.7	1.5	0	0
WSW	.7	1.6	1	0
W	.7	2.0	0	0
WNW	.9	1.9	7	7
NW	.6	1.7	0	0
NNW	.6	2.0	4	1
N	.1	2.0	0	0

LOCATION 20

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.8	5	4
NE	.8	2.4	8	3
ENE	.6	2.1	1	6
E	1.1	2.2	0	5
ESE	1.3	2.6	35	15
SE	1.0	2.3	0	0
SSE	.9	2.2	0	0
S	.4	2.0	0	0
SSW	1.0	2.2	2	2
SW	.6	1.4	0	0
WSW	.7	1.8	1	0
W	.8	1.9	0	0
WNW	1.0	2.6	38	61
NW	.6	1.8	0	0
NNW	.7	1.9	9	3
N	.8	1.9	0	1

TABLE E-310

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	2.0	0	0
NE	.6	1.7	1	0
ENE	.5	1.4	0	0
E	.6	1.8	0	0
ESE	.6	1.6	0	0
SE	.1	1.3	0	0
SSE	.6	1.3	0	0
S	.6	1.4	0	0
SSW	.6	1.8	0	0
SW	.8	2.5	5	2
WSW	1.0	2.2	25	7
W	.8	2.3	0	4
WNW	.9	2.2	12	14
NW	1.0	2.7	19	31
NNW	1.1	2.5	36	36
N	1.0	2.2	1	5

LOCATION 21

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.4	4.0	28	27
NE	1.9	3.3	30	21
ENE	1.8	2.9	14	25
E	1.5	2.8	0	4
ESE	1.5	2.8	6	3
SE	1.0	2.5	0	0
SSE	1.1	2.7	0	0
S	.9	2.4	0	0
SSW	1.5	2.7	2	2
SW	.7	1.9	0	0
WSW	1.0	2.5	1	0
W	1.2	2.9	1	6
WNW	1.1	2.6	3	2
NW	1.2	2.9	4	4
NNW	1.2	3.0	7	2
N	1.2	2.9	0	2

LOCATION 21

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.4	4.4	28	27
NE	1.9	3.5	30	22
ENE	1.6	2.8	7	19
E	1.3	3.0	0	2
ESE	1.2	2.7	0	0
SE	1.3	2.6	0	0
SSE	1.3	2.7	0	0
S	1.1	2.4	0	0
SSW	1.7	2.7	13	7
SW	.8	1.8	0	0
WSW	.8	2.2	0	0
W	.9	2.8	0	0
WNW	.8	2.2	0	0
NW	1.0	2.3	1	0
NNW	1.3	2.8	15	10
N	1.6	3.1	3	13

LOCATION 22

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	2.1	2	2
NE	.5	1.9	2	0
ENE	.6	2.4	0	5
E	.9	2.5	2	10
ESE	.8	2.0	6	2
SE	.1	1.5	0	0
SSE	.1	1.4	0	0
S	.4	1.6	0	0
SSW	.3	1.5	0	0
SW	.6	1.8	4	1
WSW	.1	1.7	0	0
W	.1	2.3	0	0
WNW	.5	1.8	1	0
NW	.7	2.0	13	15
NNW	.9	2.5	60	64
N	.6	2.1	0	1

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.3	3.1	12	11
NE	1.3	3.0	30	19
ENE	.9	2.6	1	8
E	.7	2.4	0	0
ESE	.7	2.2	0	0
SE	.3	1.8	0	0
SSE	.5	2.1	0	0
S	.5	1.7	0	0
SSW	.8	2.1	0	0
SW	.5	1.2	0	0
WSW	.4	2.0	0	0
W	.4	2.1	0	0
WNW	.8	2.4	13	12
NW	.9	2.3	7	7
NNW	1.0	2.8	24	17
N	1.2	3.2	10	23

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 23

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.0	3.7	10	8
NE	2.0	3.3	27	15
ENE	1.8	3.2	10	19
E	1.4	3.0	0	1
ESE	1.1	2.6	0	0
SE	1.2	3.0	0	0
SSE	1.3	3.1	0	0
S	.9	2.7	0	0
SSW	1.6	3.1	1	2
SW	.7	1.8	0	0
WSW	1.2	2.9	2	0
W	1.3	3.0	0	3
WNW	1.5	3.4	32	44
NW	1.3	2.8	4	3
NNW	1.4	3.0	13	5
N	1.0	2.9	0	0

LOCATION 23

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.8	3.6	8	10
NE	1.9	3.4	30	23
ENE	1.6	3.4	7	20
E	1.1	2.7	0	1
ESE	1.4	3.4	3	2
SE	1.3	3.1	0	0
SSE	1.5	3.0	1	1
S	1.1	2.7	0	0
SSW	1.8	3.1	26	11
SW	.7	1.7	0	0
WSW	.9	2.2	0	0
W	1.1	2.9	0	3
WNW	1.2	2.5	8	12
NW	1.2	2.4	7	13
NNW	1.1	2.3	7	4
N	1.0	2.3	0	0

TABLE E-311

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	2.0	0	0
NE	.6	1.7	1	0
ENE	.5	1.4	0	0
E	.6	1.8	0	0
ESE	.6	1.6	0	0
SE	.1	1.3	0	0
SSE	.6	1.3	0	0
S	.6	1.4	0	0
SSW	.6	1.8	0	0
SW	.8	2.5	14	5
WSW	1.0	2.2	17	4
W	.8	2.3	1	9
WNW	.9	2.2	13	15
NW	1.0	2.7	25	40
NNW	1.1	2.5	28	23
N	1.0	2.2	0	2

LOCATION 21

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.4	4.0	19	16
NE	1.9	3.3	21	12
ENE	1.8	2.9	5	14
E	1.5	2.8	0	2
ESE	1.5	2.8	3	1
SE	1.0	2.5	0	0
SSE	1.1	2.7	0	0
S	.9	2.4	0	0
SSW	1.5	2.7	0	1
SW	.7	1.9	0	0
WSW	1.0	2.5	3	0
W	1.2	2.9	5	17
WNW	1.1	2.6	12	9
NW	1.2	2.9	12	14
NNW	1.2	3.0	18	10
N	1.2	2.9	1	3

LOCATION 21

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.4	4.4	25	22
NE	1.9	3.5	28	17
ENE	1.6	2.8	5	14
E	1.3	3.0	0	3
ESE	1.2	2.7	2	0
SE	1.3	2.6	0	0
SSE	1.3	2.7	0	0
S	1.1	2.4	1	1
SSW	1.7	2.7	6	4
SW	.8	1.8	0	0
WSW	.8	2.2	1	0
W	.9	2.8	1	8
WNW	.8	2.2	2	0
NW	1.0	2.3	2	2
NNW	1.3	2.8	21	13
N	1.6	3.1	4	13

LOCATION 22

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	2.1	3	2
NE	.5	1.9	6	2
ENE	.6	2.4	4	11
E	.9	2.5	2	9
ESE	.8	2.0	5	1
SE	.1	1.5	0	0
SSE	.1	1.4	0	0
S	.4	1.6	0	0
SSW	.3	1.5	0	0
SW	.6	1.8	0	0
WSW	.1	1.7	0	0
W	.1	2.3	7	15
WNW	.5	1.8	2	0
NW	.7	2.0	6	7
NNW	.9	2.5	57	50
N	.6	2.1	0	2

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.3	3.1	8	7
NE	1.3	3.0	25	14
ENE	.9	2.6	2	9
E	.7	2.4	0	0
ESE	.7	2.2	0	0
SE	.3	1.8	0	0
SSE	.5	2.1	0	0
S	.5	1.7	0	0
SSW	.8	2.1	0	0
SW	.5	1.2	0	0
WSW	.4	2.0	0	0
W	.4	2.1	0	0
WNW	.8	2.4	27	32
NW	.9	2.3	7	6
NNW	1.0	2.8	23	14
N	1.2	3.2	7	17

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 23

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.0	3.7	7	5
NE	2.0	3.3	19	9
ENE	1.8	3.2	5	12
E	1.4	3.0	0	1
ESE	1.1	2.6	0	0
SE	1.2	3.0	0	0
SSE	1.3	3.1	0	0
S	.9	2.7	0	0
SSW	1.6	3.1	1	1
SW	.7	1.8	0	0
WSW	1.2	2.9	2	0
W	1.3	3.0	2	7
WNW	1.5	3.4	41	56
NW	1.3	2.8	5	3
NNW	1.4	3.0	15	5
N	1.0	2.9	0	0

LOCATION 23

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.8	3.6	8	8
NE	1.9	3.4	26	17
ENE	1.6	3.4	7	18
E	1.1	2.7	0	2
ESE	1.4	3.4	13	6
SE	1.3	3.1	0	0
SSE	1.5	3.0	1	1
S	1.1	2.7	1	2
SSW	1.8	3.1	13	6
SW	.9	2.7	0	0
WSW	.9	2.2	1	0
W	1.1	2.9	2	10
WNW	1.2	2.5	16	22
NW	1.2	2.4	5	6
NNW	1.1	2.3	6	2
N	1.0	2.3	0	1

TABLE E-312

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.8	0	0
NE	1.5	3.2	13	6
ENE	1.8	3.3	17	25
E	1.7	3.1	2	10
ESE	1.6	3.3	14	5
SE	1.0	2.6	0	0
SSE	.1	2.5	0	0
S	.1	2.0	0	0
SSW	.9	2.4	0	0
SW	.6	1.8	0	0
WSW	1.4	2.9	19	3
W	1.5	3.0	22	44
WNW	1.2	2.7	11	7
NW	.8	2.0	0	0
NNW	.8	2.4	0	0
N	.1	1.8	0	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.3	0	0
NE	.7	2.2	1	0
ENE	1.2	2.8	3	10
E	1.5	2.7	2	8
ESE	.8	2.2	0	0
SE	.6	2.1	0	0
SSE	.6	2.4	0	0
S	.6	2.6	0	0
SSW	1.3	2.8	4	2
SW	.9	1.8	2	0
WSW	1.3	2.9	35	7
W	1.4	2.6	38	60
WNW	1.1	2.1	15	12
NW	.7	1.9	0	0
NNW	.8	2.1	1	0
N	.5	1.8	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.9	0	0
NE	.9	2.8	2	1
ENE	1.7	3.4	18	34
E	1.0	2.5	0	1
ESE	.4	2.3	0	0
SE	.1	2.1	0	0
SSE	.5	2.1	0	0
S	1.0	2.7	0	0
SSW	1.8	3.4	58	21
SW	.8	1.9	0	0
WSW	1.3	2.9	20	10
W	1.2	2.8	3	32
WNW	.4	2.3	0	0
NW	.8	2.2	0	0
NNW	.6	2.1	0	0
N	.1	1.6	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.2	0	0
NE	1.1	3.0	14	9
ENE	1.5	2.9	25	34
E	1.4	2.8	5	18
ESE	1.4	2.9	41	25
SE	.6	2.4	0	0
SSE	.6	2.1	0	0
S	.5	2.2	0	0
SSW	1.0	2.6	1	2
SW	.6	1.6	0	0
WSW	.8	1.8	3	0
W	.8	2.1	0	2
WNW	.8	1.9	6	6
NW	.4	1.6	0	0
NNW	.7	2.0	2	0
N	.8	1.8	0	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.1	1	2
NE	.8	2.3	5	2
ENE	.9	2.6	1	10
E	1.1	2.5	0	8
ESE	.5	2.2	0	0
SE	.1	2.0	0	0
SSE	.9	2.3	0	0
S	1.1	2.5	5	8
SSW	1.4	2.6	59	18
SW	.7	1.7	1	0
WSW	.8	1.9	1	0
W	.8	1.9	0	2
WNW	.9	1.9	20	40
NW	.6	1.6	0	0
NNW	.8	2.2	8	5
N	.9	1.8	0	4

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.6	0	0
NE	.1	1.9	0	0
ENE	1.4	2.9	6	30
E	.9	2.4	0	1
ESE	.6	2.4	0	0
SE	.1	2.2	0	0
SSE	.8	2.7	1	1
S	1.3	2.9	5	26
SSW	1.8	3.1	89	41
SW	.7	1.8	0	0
WSW	.8	1.9	0	0
W	.7	1.8	0	0
WNW	.5	1.6	0	0
NW	.1	1.8	0	0
NNW	.7	1.8	0	0
N	.6	1.5	0	0

TABLE E-313

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.8	0	0
NE	1.5	3.2	19	10
ENE	1.8	3.3	11	20
E	1.7	3.1	1	6
ESE	1.6	3.3	13	5
SE	1.0	2.6	0	0
SSE	.1	2.5	0	0
S	.1	2.0	0	0
SSW	.9	2.4	0	0
SW	.6	1.8	0	0
WSW	1.4	2.9	19	3
W	1.5	3.0	17	37
WNW	1.2	2.7	17	18
NW	.8	2.0	0	0
NNW	.8	2.4	3	0
N	.1	1.8	0	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.3	0	0
NE	.7	2.2	3	1
ENE	1.2	2.8	3	12
E	1.5	2.7	2	9
ESE	.8	2.2	1	0
SE	.6	2.1	0	0
SSE	.6	2.4	0	0
S	.6	2.6	0	0
SSW	1.3	2.8	10	5
SW	.9	1.8	0	0
WSW	1.3	2.9	36	9
W	1.4	2.6	24	49
WNW	1.1	2.1	16	15
NW	.7	1.9	0	0
NNW	.8	2.1	3	0
N	.5	1.8	0	0

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.9	0	0
NE	.9	2.8	8	5
ENE	1.7	3.4	20	31
E	1.0	2.5	0	1
ESE	.4	2.3	0	0
SE	.1	2.1	0	0
SSE	.5	2.1	0	0
S	1.0	2.7	2	3
SSW	1.8	3.4	34	12
SW	.8	1.9	1	0
WSW	1.3	2.9	24	8
W	1.2	2.8	10	39
WNW	.4	2.3	1	0
NW	.8	2.2	1	1
NNW	.6	2.1	1	0
N	.1	1.6	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 24

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.2	0	0
NE	1.1	3.0	23	15
ENE	1.5	2.9	18	30
E	1.4	2.8	5	17
ESE	1.4	2.9	35	21
SE	.6	2.4	0	0
SSE	.6	2.1	0	0
S	.5	2.2	0	0
SSW	1.0	2.6	4	4
SW	.6	1.6	0	0
WSW	.8	1.8	2	0
W	.8	2.1	0	4
WNW	.8	1.9	6	6
NW	.4	1.6	0	0
NNW	.7	2.0	3	1
N	.8	1.8	0	0

LOCATION 25

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.1	1	2
NE	.8	2.3	6	3
ENE	.9	2.6	3	13
E	1.1	2.5	4	16
ESE	.5	2.2	2	1
SE	.1	2.0	0	0
SSE	.9	2.3	1	1
S	1.1	2.5	12	15
SSW	1.4	2.6	36	13
SW	.7	1.7	1	0
WSW	.8	1.9	3	0
W	.8	1.9	0	1
WNW	.9	1.9	14	22
NW	.6	1.6	1	1
NNW	.8	2.2	14	9
N	.9	1.8	0	3

LOCATION 26

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.6	0	0
NE	.1	1.9	0	0
ENE	1.4	2.9	15	32
E	.9	2.4	0	3
ESE	.6	2.4	0	0
SE	.1	2.2	0	0
SSE	.8	2.7	1	1
S	1.3	2.9	10	37
SSW	1.8	3.1	62	24
SW	.7	1.8	2	1
WSW	.8	1.9	1	0
W	.7	1.8	0	0
WNW	.5	1.6	0	0
NW	.1	1.8	0	0
NNW	.7	1.8	1	0
N	.6	1.5	0	0

TABLE E-314

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.2	0	0
NE	1.0	2.2	3	1
ENE	.7	2.2	0	0
E	1.3	2.7	0	2
ESE	1.5	2.8	12	6
SE	1.5	2.7	0	0
SSE	.8	2.3	0	0
S	.9	2.5	0	0
SSW	.9	2.6	0	0
SW	1.1	3.1	6	2
WSW	1.4	3.1	29	9
W	1.3	2.8	3	17
WNW	1.3	2.7	20	33
NW	1.3	2.6	15	25
NNW	1.2	2.5	11	5
N	.6	1.6	0	0

LOCATION 28

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.5	3.1	9	7
NE	1.4	2.9	26	15
ENE	1.1	2.6	2	10
E	.6	1.8	0	0
ESE	1.1	2.2	2	0
SE	.9	2.1	0	0
SSE	.9	2.2	0	0
S	.7	2.1	0	0
SSW	.9	2.3	0	0
SW	.4	1.6	0	0
WSW	.5	2.2	0	0
W	.6	2.3	0	0
WNW	.8	2.4	2	0
NW	.8	1.9	0	0
NNW	1.3	2.5	39	31
N	1.6	2.9	19	36

LOCATION 29

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	2.2	2	2
NE	1.0	2.3	14	8
ENE	.7	2.0	0	3
E	.6	1.7	0	0
ESE	1.1	2.2	16	7
SE	1.0	2.2	0	0
SSE	1.1	2.2	1	1
S	1.0	2.3	3	4
SSW	.8	2.1	0	0
SW	.8	2.0	6	2
WSW	.7	2.0	1	0
W	.7	2.2	0	1
WNW	.8	2.3	10	10
NW	.9	2.1	9	12
NNW	1.0	2.2	28	25
N	1.2	2.4	8	23

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 27

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.1	3.5	11	9
NE	2.1	3.5	29	16
ENE	1.7	3.5	5	13
E	1.3	2.9	0	0
ESE	.7	2.7	0	0
SE	.9	2.9	0	0
SSE	1.1	2.8	0	0
S	1.1	3.0	0	0
SSW	1.6	3.3	1	1
SW	.9	2.1	0	0
WSW	1.4	2.9	10	1
W	1.8	3.9	25	43
WNW	1.3	3.4	9	4
NW	1.2	2.9	2	1
NNW	1.0	3.1	1	0
N	1.8	3.5	5	12

LOCATION 28

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.2	3.3	10	10
NE	2.4	3.6	36	26
ENE	1.8	3.1	4	15
E	.6	1.8	0	0
ESE	1.2	2.8	0	0
SE	1.6	3.2	0	1
SSE	2.1	3.7	2	2
S	1.9	3.2	11	13
SSW	2.1	3.2	20	8
SW	.7	1.8	0	0
WSW	.7	1.6	0	0
W	.8	1.9	0	0
WNW	.7	2.0	0	0
NW	.7	1.8	0	0
NNW	1.3	3.4	7	3
N	2.0	3.0	8	23

LOCATION 29

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	2.0	0	0
NE	.9	2.3	2	1
ENE	1.4	3.0	4	18
E	1.2	2.9	0	3
ESE	1.5	3.3	15	12
SE	1.8	3.3	4	3
SSE	1.8	3.4	3	3
S	1.5	3.0	9	17
SSW	1.8	3.1	47	18
SW	.9	1.8	1	1
WSW	1.2	2.5	14	5
W	1.2	2.5	1	18
WNW	.7	1.9	0	0
NW	.4	1.8	0	0
NNW	.5	2.0	0	0
N	.5	1.9	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 27

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.0	3.4	15	15
NE	1.9	3.6	33	23
ENE	1.6	3.5	8	19
E	1.0	2.8	0	0
ESE	.8	2.9	0	0
SE	1.5	3.5	0	0
SSE	1.6	3.4	1	1
S	1.3	3.1	1	2
SSW	1.7	3.3	20	8
SW	.7	1.8	0	0
WSW	.9	2.2	0	0
W	1.1	2.3	0	1
WNW	1.2	2.8	15	20
NW	1.1	2.4	1	1
NNW	.8	2.4	1	0
N	1.4	3.1	2	8

LOCATION 28

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.1	3.4	11	10
NE	2.4	3.7	41	29
ENE	1.7	3.0	3	12
E	.7	2.0	0	0
ESE	1.3	2.8	0	0
SE	2.0	3.4	1	1
SSE	2.1	3.4	3	2
S	1.8	3.0	6	9
SSW	1.8	2.8	6	4
SW	.5	1.6	0	0
WSW	.5	1.4	0	0
W	.6	1.6	0	0
WNW	.8	2.0	0	0
NW	.8	1.9	0	0
NNW	1.6	2.4	16	12
N	1.9	2.9	7	20

LOCATION 29

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	2.1	0	0
NE	1.1	2.4	6	3
ENE	1.2	2.7	2	13
E	1.3	2.8	0	6
ESE	1.6	3.3	34	27
SE	1.9	3.6	9	6
SSE	1.8	3.3	4	4
S	1.5	2.9	16	26
SSW	1.6	2.7	24	12
SW	.7	2.0	0	0
WSW	.8	2.1	0	0
W	.6	1.8	0	0
WNW	.7	2.1	0	0
NW	.8	1.9	0	0
NNW	.9	2.2	4	2
N	.7	1.9	0	0

TABLE E-315

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.2	0	0
NE	1.0	2.2	3	1
ENE	.7	2.2	0	1
E	1.3	2.7	0	2
ESE	1.5	2.8	4	2
SE	1.5	2.7	0	0
SSE	.8	2.3	0	0
S	.9	2.5	0	0
SSW	.9	2.6	0	0
SW	1.1	3.1	24	12
WSW	1.4	3.1	31	12
W	1.3	2.8	4	25
WNW	1.3	2.7	15	25
NW	1.3	2.6	8	14
NNW	1.2	2.5	10	6
N	.6	1.6	0	0

LOCATION 28

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.5	3.1	11	10
NE	1.4	2.9	24	14
ENE	1.1	2.6	5	14
E	.6	1.8	0	0
ESE	1.1	2.2	2	0
SE	.9	2.1	0	0
SSE	.9	2.2	0	0
S	.7	2.1	0	0
SSW	.9	2.3	0	0
SW	.4	1.6	0	0
WSW	.5	2.2	1	0
W	.6	2.3	0	1
WNW	.8	2.4	13	10
NW	.8	1.9	1	0
NNW	1.3	2.5	28	20
N	1.6	2.9	13	28

LOCATION 29

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.0	2.2	1	1
NE	1.0	2.3	14	7
ENE	.7	2.0	0	5
E	.6	1.7	0	0
ESE	1.1	2.2	8	3
SE	1.0	2.2	0	0
SSE	1.1	2.2	1	0
S	1.0	2.3	2	2
SSW	.8	2.1	0	0
SW	.8	2.0	2	0
WSW	.7	2.0	6	0
W	.7	2.2	2	10
WNW	.8	2.3	21	25
NW	.9	2.1	7	7
NNW	1.0	2.2	30	23
N	1.2	2.4	4	13

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 27

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.1	3.5	4	3
NE	2.1	3.5	19	8
ENE	1.7	3.5	3	9
E	1.3	2.9	0	0
ESE	.7	2.7	0	0
SE	.9	2.9	0	0
SSE	1.1	2.8	0	0
S	1.1	3.0	0	0
SSW	1.6	3.3	0	1
SW	.9	2.1	0	0
WSW	1.4	2.9	6	0
W	1.8	3.9	29	45
WNW	1.3	3.4	27	26
NW	1.2	2.9	3	1
NNW	1.0	3.1	7	1
N	1.8	3.5	2	6

LOCATION 28

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.2	3.3	7	8
NE	2.4	3.6	34	24
ENE	1.8	3.1	9	21
E	.6	1.8	0	0
ESE	1.2	2.8	2	1
SE	1.8	3.2	1	1
SSE	2.1	3.7	3	2
S	1.9	3.2	13	15
SSW	2.1	3.2	17	8
SW	.7	1.8	0	0
WSW	.7	1.6	0	0
W	.8	1.9	0	0
WNW	.7	2.0	0	0
NW	.7	1.8	0	0
NNW	1.3	2.4	8	4
N	2.0	3.0	5	17

LOCATION 29

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	2.1	0	0
NE	.9	2.3	6	3
ENE	1.4	3.0	7	19
E	1.2	2.9	0	6
ESE	1.5	3.3	24	14
SE	1.8	3.3	3	2
SSE	1.8	3.4	3	3
S	1.5	3.0	10	13
SSW	1.8	3.1	27	11
SW	.9	1.8	0	0
WSW	1.2	2.5	14	3
W	1.2	2.5	5	26
WNW	.7	1.9	1	0
NW	.4	1.8	0	0
NNW	.5	2.0	0	0
N	.5	1.9	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 27

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.0	3.4	11	10
NE	1.9	3.6	26	16
ENE	1.6	3.5	10	21
E	1.0	2.8	0	1
ESE	.8	2.9	2	1
SE	1.5	3.5	1	1
SSE	1.6	3.4	2	1
S	1.3	3.1	4	4
SSW	1.7	3.3	13	6
SW	.7	1.8	0	0
WSW	.9	2.2	1	0
W	1.1	2.3	0	3
WNW	1.2	2.8	18	23
NW	1.1	2.4	3	3
NNW	.8	2.4	2	0
N	1.4	3.1	2	8

LOCATION 28

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	2.1	3.4	9	9
NE	2.4	3.7	40	28
ENE	1.7	3.0	7	18
E	.7	2.0	0	0
ESE	1.3	2.8	5	2
SE	2.0	3.4	3	2
SSE	2.1	3.4	3	2
S	1.8	3.0	10	11
SSW	1.8	2.8	4	3
SW	.5	1.6	0	0
WSW	.5	1.4	0	0
W	.6	1.6	0	0
WNW	.8	2.0	1	0
NW	.8	1.8	0	0
NNW	1.6	2.4	14	8
N	1.9	2.9	4	15

LOCATION 29

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	2.1	0	0
NE	1.1	2.4	8	5
ENE	1.2	2.7	5	17
E	1.3	2.8	1	11
ESE	1.6	3.3	41	29
SE	1.9	3.6	9	5
SSE	1.8	3.3	3	3
S	1.5	2.9	11	17
SSW	1.6	2.7	13	8
SW	.7	2.0	0	0
WSW	.8	2.1	1	0
W	.6	1.8	0	0
WNW	.7	2.1	4	4
NW	.8	1.9	0	0
NNW	.9	2.2	3	1
N	.7	1.9	0	0

TABLE E-316

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.5	2.7	4	3
NE	1.5	2.8	15	7
ENE	1.3	2.6	1	7
E	1.4	2.8	0	2
ESE	1.4	2.6	4	1
SE	1.0	2.3	0	0
SSE	1.2	2.7	0	0
S	1.1	2.6	0	0
SSW	1.6	3.0	9	4
SW	.9	2.3	0	0
WSW	1.2	2.6	8	1
W	1.5	3.4	25	49
WNW	1.1	2.4	9	5
NW	.9	2.2	0	0
NNW	1.3	2.5	19	10
N	1.5	2.7	4	11

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.5	2.9	5	5
NE	1.4	3.2	15	9
ENE	1.0	2.5	0	3
E	.9	2.4	0	0
ESE	1.1	2.4	1	0
SE	1.3	3.2	0	0
SSE	1.4	3.2	1	1
S	1.4	2.9	5	6
SSW	1.6	2.9	16	7
SW	.7	2.2	0	0
WSW	1.0	2.3	2	0
W	.8	1.9	0	0
WNW	.9	2.6	2	1
NW	1.3	3.2	17	26
NNW	1.4	3.0	29	25
N	1.5	2.8	5	16

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.5	2.7	3	2
NE	1.5	2.5	17	6
ENE	1.6	2.8	9	15
E	.7	1.9	0	0
ESE	.8	1.7	0	0
SE	1.3	2.4	0	0
SSE	1.2	2.3	0	0
S	1.1	2.0	0	0
SSW	1.1	2.1	0	0
SW	1.1	2.3	9	1
WSW	.9	2.0	0	0
W	1.0	2.4	0	0
WNW	1.5	3.4	61	76
NW	.1	1.8	0	0
NNW	.7	1.8	0	0
N	.8	2.0	0	0

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.6	2.8	1	0
NE	1.7	3.0	12	4
ENE	1.6	2.8	1	5
E	.6	2.0	0	0
ESE	.9	1.8	0	0
SE	1.5	2.5	0	0
SSE	1.7	2.8	0	0
S	1.5	2.9	0	0
SSW	1.4	2.7	0	0
SW	1.5	3.2	11	2
WSW	1.6	2.7	0	0
W	1.5	3.3	1	2
WNW	1.9	4.2	59	81
NW	1.6	2.8	10	5
NNW	1.3	2.6	4	0
N	.7	2.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.2	0	0
NE	1.0	2.3	5	1
ENE	.8	1.9	0	0
E	.7	2.1	0	0
ESE	.9	1.8	0	0
SE	1.0	2.2	0	0
SSE	1.0	2.2	0	0
S	.9	2.2	0	0
SSW	1.1	2.2	0	0
SW	.6	2.1	0	0
WSW	.8	1.8	1	0
W	.6	2.3	0	0
WNW	1.5	3.2	92	100
NW	.7	2.0	0	0
NNW	.8	2.0	2	0
N	.9	2.0	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.2	0	0
NE	1.0	2.3	1	0
ENE	.8	2.0	0	0
E	.5	2.0	0	0
ESE	1.2	2.4	0	0
SE	1.4	2.5	0	0
SSE	1.5	2.6	0	0
S	1.2	2.5	0	0
SSW	1.0	2.4	0	0
SW	1.0	2.9	0	0
WSW	1.0	2.3	0	0
W	1.9	3.8	37	47
WNW	1.6	3.3	35	35
NW	1.6	2.7	23	18
NNW	1.2	2.5	3	0
N	.6	2.3	0	0

TABLE E-317

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.5	2.7	1	1
NE	1.5	2.8	12	5
ENE	1.3	2.6	1	6
E	1.4	2.8	0	2
ESE	1.4	2.6	1	0
SE	1.0	2.3	0	0
SSE	1.2	2.7	0	0
S	1.1	2.6	0	0
SSW	1.6	3.0	3	2
SW	.9	2.3	2	0
WSW	1.2	2.6	9	1
W	1.5	3.4	46	69
WNW	1.1	2.4	9	5
NW	.9	2.2	0	0
NNW	1.3	2.5	13	5
N	1.5	2.7	1	4

LOCATION 30

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.5	2.9	2	2
NE	1.4	3.2	16	8
ENE	1.0	2.5	0	5
E	.9	2.4	0	0
ESE	1.1	2.4	0	0
SE	1.3	3.2	0	0
SSE	1.4	3.2	1	1
S	1.4	2.9	3	3
SSW	1.6	2.9	4	3
SW	.7	2.2	1	0
WSW	1.0	2.3	2	0
W	.8	1.9	0	0
WNW	.9	2.6	9	6
NW	1.3	3.2	31	43
NNW	1.4	3.0	27	20
N	1.5	2.8	2	9

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.5	2.7	2	1
NE	1.5	2.5	10	2
ENE	1.6	2.8	4	8
E	.7	1.9	0	0
ESE	.8	1.7	0	0
SE	1.3	2.4	0	0
SSE	1.2	2.3	0	0
S	1.1	2.0	0	0
SSW	1.1	2.1	0	0
SW	1.1	2.3	6	0
WSW	.9	2.0	0	0
W	1.0	2.4	0	0
WNW	1.5	3.4	77	88
NW	.1	1.8	0	0
NNW	.7	1.8	1	0
N	.8	2.0	0	0

LOCATION 31

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.6	2.8	0	0
NE	1.7	3.0	7	1
ENE	1.6	2.8	0	3
E	.6	2.0	0	0
ESE	.9	1.8	0	0
SE	1.5	2.5	0	0
SSE	1.7	2.8	0	0
S	1.5	2.9	0	0
SSW	1.4	2.7	0	0
SW	1.5	3.2	12	2
WSW	1.2	2.7	1	0
W	1.5	3.3	3	5
WNW	1.9	4.2	67	97
NW	1.5	3.6	5	1
NNW	1.3	3.6	4	0
N	.7	2.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.2	0	0
NE	1.0	2.3	6	1
ENE	.8	1.9	0	0
E	.7	2.1	0	0
ESE	.9	1.8	0	0
SE	1.0	2.2	0	0
SSE	1.0	2.2	0	0
S	.9	2.2	0	0
SSW	1.1	2.2	0	0
SW	.6	2.1	0	0
WSW	.8	1.8	1	0
W	.6	2.3	0	0
WNW	1.5	3.2	90	100
NW	.7	2.0	0	0
NNW	.8	2.0	2	0
N	.9	2.0	0	0

LOCATION 32

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.2	0	0
NE	1.0	2.3	1	0
ENE	.8	2.0	0	0
E	.5	2.0	0	0
ESE	1.2	2.4	0	0
SE	1.4	2.5	0	0
SSE	1.5	2.6	0	0
S	1.2	2.5	0	0
SSW	1.0	2.4	0	0
SW	1.0	2.9	0	0
WSW	1.0	2.3	0	0
W	1.9	3.8	42	54
WNW	1.6	3.3	37	38
NW	1.6	2.7	12	7
NNW	1.2	2.5	4	0
N	.6	2.3	0	0

TABLE E-318

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.4	3.1	6	5
NE	1.5	3.0	23	13
ENE	1.4	3.1	9	18
E	.7	2.1	0	0
ESE	1.1	2.4	3	1
SE	1.1	3.0	0	0
SSE	1.0	2.6	0	0
S	.8	2.4	0	0
SSW	1.1	2.6	0	1
SW	.3	1.8	0	0
WSW	.7	2.2	0	0
W	.7	1.8	0	0
WNW	1.0	2.1	8	5
NW	1.1	2.1	8	8
NNW	1.3	2.4	33	25
N	1.5	2.8	10	23

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.4	2.6	1	2
NE	1.4	2.8	9	6
ENE	1.3	2.8	1	9
E	.9	2.3	0	0
ESE	2.2	3.9	73	63
SE	2.2	3.6	7	5
SSE	1.7	3.1	1	1
S	1.2	2.6	0	1
SSW	1.5	3.3	2	4
SW	.6	1.5	0	0
WSW	.5	1.3	0	0
W	.4	1.2	0	0
WNW	1.0	2.1	1	1
NW	1.1	1.9	1	1
NNW	1.1	2.0	4	2
N	1.3	2.6	0	3

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.2	7	4
NE	.6	1.9	2	0
ENE	.1	1.9	0	0
E	.6	2.0	0	0
ESE	.7	2.2	1	0
SE	.7	2.0	0	0
SSE	.5	1.8	0	0
S	.3	1.7	0	0
SSW	.1	1.5	0	0
SW	.6	1.5	1	0
WSW	.6	1.4	0	0
W	.8	1.8	3	5
WNW	.9	2.1	46	47
NW	.6	1.8	2	0
NNW	.5	1.6	1	0
N	1.3	2.3	35	44

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.2	5	5
NE	.9	2.6	24	16
ENE	.6	2.3	0	5
E	.4	1.7	0	0
ESE	.8	2.1	9	4
SE	.7	2.1	0	0
SSE	.8	2.2	1	1
S	1.0	2.1	27	30
SSW	.5	1.8	0	0
SW	.6	1.6	4	1
WSW	.1	1.3	0	0
W	.6	1.8	0	3
WNW	.6	1.5	6	5
NW	.1	1.7	0	0
NNW	.7	1.6	15	10
N	.9	1.8	4	17

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.4	1	1
NE	.9	2.3	6	2
ENE	.9	2.0	0	4
E	.7	2.1	0	0
ESE	1.0	2.2	4	1
SE	1.0	1.9	0	0
SSE	.9	1.9	0	0
S	1.0	2.1	3	2
SSW	1.2	2.0	7	3
SW	.6	1.6	0	0
WSW	.7	1.6	0	0
W	.7	1.5	0	0
WNW	1.1	2.1	42	64
NW	.9	2.0	8	7
NNW	1.1	2.2	25	15
N	.9	1.9	0	2

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	0	0
NE	.9	2.5	7	3
ENE	1.5	2.9	28	36
E	1.5	3.0	24	33
ESE	.9	2.5	1	0
SE	.5	1.9	0	0
SSE	.8	2.3	0	0
S	1.1	2.7	4	6
SSW	1.3	2.6	32	11
SW	.5	1.5	0	0
WSW	.5	1.4	0	0
W	.4	1.8	0	0
WNW	.8	2.1	3	2
NW	.4	1.9	0	0
NNW	.6	1.7	0	0
N	1.0	2.0	1	6

2000 FULL-BUILD POST-MITIGATION

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.0	1	1
NE	.9	2.7	25	14
ENE	.8	2.4	7	16
E	.4	1.8	0	0
ESE	.8	2.1	14	5
SE	.8	2.1	0	0
SSE	1.0	2.2	3	2
S	.7	1.9	3	2
SSW	.4	1.6	0	0
SW	.1	1.4	0	0
WSW	.1	1.4	0	0
W	.7	1.8	10	25
WNW	.5	1.9	5	2
NW	.4	1.5	0	0
NNW	.6	1.6	9	3
N	.9	1.9	12	26

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.2	0	0
NE	.9	2.4	5	1
ENE	.8	2.1	0	1
E	.7	1.9	0	0
ESE	1.2	2.5	10	2
SE	.9	1.8	0	0
SSE	1.1	2.3	1	0
S	1.0	2.1	1	1
SSW	.8	1.8	0	0
SW	.5	1.4	0	0
WSW	.5	1.7	0	0
W	.7	2.0	0	0
WNW	1.3	2.7	63	88
NW	.7	1.9	0	0
NNW	1.1	2.1	18	6
N	1.0	2.0	1	2

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.3	0	0
NE	.9	2.6	6	2
ENE	1.6	2.9	35	36
E	1.5	2.9	18	23
ESE	.9	2.5	1	0
SE	.5	1.7	0	0
SSE	.9	2.2	0	0
S	1.1	2.8	7	6
SSW	1.2	2.3	7	3
SW	.3	1.6	0	0
WSW	.3	1.5	0	0
W	.8	2.3	0	2
WNW	.8	2.1	8	4
NW	.7	1.6	0	0
NNW	.8	2.2	6	1
N	1.2	2.6	8	18

TABLE E-319

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.4	3.1	9	9
NE	1.5	3.0	26	17
ENE	1.4	3.1	15	25
E	.7	2.1	0	0
ESE	1.1	2.4	3	1
SE	1.1	3.0	0	1
SSE	1.0	2.6	0	0
S	.8	2.4	0	1
SSW	1.1	2.6	2	2
SW	.3	1.8	0	0
WSW	.7	2.2	3	0
W	.7	1.8	0	0
WNW	1.0	2.1	5	3
NW	1.1	2.1	5	5
NNW	1.3	2.4	24	18
N	1.5	2.8	5	16

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.4	2.6	1	3
NE	1.4	2.8	11	8
ENE	1.3	2.8	1	12
E	.9	2.3	0	0
ESE	2.2	3.9	71	60
SE	2.2	3.6	5	4
SSE	1.7	3.1	1	1
S	1.2	2.6	0	2
SSW	1.5	3.3	6	6
SW	.6	1.5	0	0
WSW	.5	1.3	0	0
W	.4	1.2	0	0
WNW	1.0	2.1	0	0
NW	1.1	1.9	0	0
NNW	1.1	2.0	3	1
N	1.3	2.6	0	2

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.2	6	4
NE	.6	1.9	11	4
ENE	.1	1.9	0	1
E	.6	2.0	0	1
ESE	.7	2.2	7	1
SE	.7	2.0	0	0
SSE	.5	1.8	0	0
S	.3	1.7	0	0
SSW	.1	1.5	0	0
SW	.6	1.5	0	0
WSW	.6	1.4	0	0
W	.8	1.8	4	9
WNW	.9	2.1	40	47
NW	.6	1.8	9	6
NNW	.5	1.6	6	1
N	1.3	2.3	16	26

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.2	6	6
NE	.9	2.6	39	27
ENE	.6	2.3	10	21
E	.4	1.7	0	0
ESE	.8	2.1	11	4
SE	.7	2.1	0	0
SSE	.8	2.2	1	1
S	1.0	2.1	14	13
SSW	.5	1.8	0	0
SW	.6	1.6	5	1
WSW	.1	1.3	0	0
W	.6	1.8	3	15
WNW	.6	1.5	3	1
NW	.1	1.7	0	0
NNW	.7	1.6	6	1
N	.9	1.8	1	7

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.4	3	3
NE	.9	2.3	14	7
ENE	.9	2.0	0	4
E	.7	2.1	0	1
ESE	1.0	2.2	11	3
SE	1.0	1.9	0	0
SSE	.9	1.9	0	0
S	1.0	2.1	2	2
SSW	1.2	2.0	2	2
SW	.6	1.6	0	0
WSW	.7	1.6	0	0
W	.7	1.5	0	1
WNW	1.1	2.1	37	56
NW	.9	2.0	12	12
NNW	1.1	2.2	17	8
N	.9	1.9	0	2

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.1	0	0
NE	.9	2.5	15	8
ENE	1.5	2.9	28	35
E	1.5	3.0	19	27
ESE	.9	2.5	4	1
SE	.5	1.9	0	0
SSE	.8	2.3	0	0
S	1.1	2.7	8	9
SSW	1.3	2.6	13	6
SW	.5	1.5	0	0
WSW	.5	1.4	0	0
W	.4	1.8	0	0
WNW	.8	2.1	9	8
NW	.4	1.9	0	0
NNW	.6	1.7	1	0
N	1.0	2.0	0	3

2000 FULL-BUILD POST-MITIGATION

LOCATION 33

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.0	3	3
NE	.9	2.7	38	25
ENE	.8	2.4	20	27
E	.4	1.6	0	0
ESE	.8	2.1	11	4
SE	.8	2.1	1	1
SSE	1.0	2.2	2	1
S	.7	1.9	3	3
SSW	.4	1.6	0	0
SW	.1	1.4	0	0
WSW	.1	1.4	0	0
W	.7	1.8	9	25
WNW	.5	1.9	3	1
NW	.4	1.5	0	0
NNW	.6	1.6	3	0
N	.9	1.9	3	9

LOCATION 34

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.2	0	0
NE	.9	2.4	9	2
ENE	.8	2.1	0	1
E	.7	1.9	0	0
ESE	1.2	2.5	14	3
SE	.9	1.8	0	0
SSE	1.1	2.3	0	0
S	1.0	2.1	0	0
SSW	.8	1.8	0	0
SW	.5	1.4	0	0
WSW	.5	1.7	0	0
W	.7	2.0	0	0
WNW	1.3	2.7	64	90
NW	.7	1.9	1	0
NNW	1.1	2.1	11	2
N	1.0	2.0	0	1

LOCATION 35

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.3	1	1
NE	.9	2.6	14	6
ENE	1.6	2.8	27	31
E	1.5	2.9	11	18
ESE	.9	2.5	3	1
SE	.5	1.7	0	0
SSE	.9	2.2	0	0
S	1.1	2.8	14	11
SSW	1.2	2.3	2	2
SW	.3	1.6	0	0
WSW	.3	1.5	0	0
W	.8	2.3	1	6
WNW	.8	2.1	8	4
NW	.7	1.6	0	0
NNW	.8	2.2	11	4
N	1.2	2.6	6	15

TABLE E-320

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.8	1	1
NE	.9	2.1	19	8
ENE	1.0	2.5	15	20
E	.8	2.1	0	2
ESE	.7	1.7	1	0
SE	.5	1.4	0	0
SSE	.6	1.4	0	0
S	.5	1.6	0	0
SSW	.1	1.5	0	0
SW	.5	1.4	0	0
WSW	.4	1.2	0	0
W	.2	1.5	0	0
WNW	.9	1.8	44	51
NW	.7	1.7	11	7
NNW	.6	1.6	2	0
N	.9	1.7	6	11

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.0	1	1
NE	1.1	2.2	22	11
ENE	1.3	2.6	26	30
E	1.2	2.2	6	13
ESE	1.0	1.9	14	4
SE	.5	1.9	0	0
SSE	.3	1.7	0	0
S	.7	1.8	0	0
SSW	.6	1.9	0	0
SW	.4	1.4	0	0
WSW	.5	1.3	0	0
W	.9	1.9	4	11
WNW	.9	2.0	25	27
NW	.7	1.7	1	0
NNW	.5	1.5	0	0
N	.5	2.0	0	0

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.0	0	0
NE	1.1	2.4	12	4
ENE	1.4	2.4	16	21
E	1.3	2.3	2	6
ESE	1.2	2.1	11	2
SE	.1	1.7	0	0
SSE	.6	1.8	0	0
S	.8	2.1	0	0
SSW	.9	2.0	0	0
SW	.4	1.6	0	0
WSW	.1	1.6	0	0
W	1.3	2.4	46	59
WNW	.9	2.0	12	5
NW	.8	2.2	2	1
NNW	.6	1.9	0	0
N	.6	2.0	0	0

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.1	0	0
NE	1.3	2.4	13	6
ENE	1.7	2.9	19	26
E	1.6	2.8	1	8
ESE	1.3	2.5	3	1
SE	.8	1.8	0	0
SSE	.1	1.5	0	0
S	.1	1.4	0	0
SSW	.5	1.4	0	0
SW	.4	1.3	0	0
WSW	.1	1.4	0	0
W	.7	1.6	0	0
WNW	1.0	2.3	7	3
NW	1.4	2.7	31	39
NNW	1.3	2.8	25	16
N	.4	1.6	0	0

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.7	0	0
NE	2.2	3.5	13	6
ENE	2.7	4.3	15	24
E	2.8	4.0	6	15
ESE	2.4	3.5	14	5
SE	1.3	2.5	0	0
SSE	1.2	2.6	0	0
S	.7	2.0	0	0
SSW	.3	1.7	0	0
SW	.1	1.7	0	0
WSW	1.0	2.0	0	0
W	1.7	2.8	0	1
WNW	1.9	3.2	18	18
NW	2.1	3.4	20	24
NNW	1.9	3.1	13	5
N	.3	1.8	0	0

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.3	0	0
NE	1.5	2.7	21	15
ENE	1.7	2.8	21	32
E	1.8	2.8	18	29
ESE	1.6	2.7	38	23
SE	.8	1.9	0	0
SSE	.7	2.0	0	0
S	.1	1.5	0	0
SSW	.4	1.8	0	0
SW	.1	1.3	0	0
WSW	.3	1.3	0	0
W	.7	1.9	0	0
WNW	.8	1.8	1	0
NW	.8	1.8	0	0
NNW	.6	2.0	0	0
N	.4	1.7	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.9	1	0
NE	.1	1.7	0	0
ENE	.1	1.5	0	0
E	.1	1.4	0	0
ESE	.3	1.3	0	0
SE	.4	1.3	0	0
SSE	.1	1.6	0	0
S	.1	1.3	0	0
SSW	.4	1.2	0	0
SW	.5	1.6	1	0
WSW	.4	1.4	0	0
W	.3	1.7	0	0
WNW	.7	2.0	19	15
NW	.9	2.2	56	71
NNW	.8	2.2	25	12
N	.7	1.9	1	4

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.8	0	0
NE	.3	1.6	0	0
ENE	.1	1.5	0	0
E	.1	1.6	0	0
ESE	.2	1.4	0	0
SE	.1	1.4	0	0
SSE	.1	1.4	0	0
S	.1	1.6	0	0
SSW	.1	1.5	0	0
SW	.1	1.7	0	0
WSW	.1	1.5	0	0
W	.4	1.7	0	0
WNW	.4	2.0	0	0
NW	.9	2.4	78	84
NNW	.7	2.2	20	6
N	.9	2.2	9	14

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.8	0	0
NE	.6	2.1	2	0
ENE	.7	1.9	0	3
E	.4	1.4	0	0
ESE	.6	1.5	0	0
SE	.1	1.6	0	0
SSE	.1	1.5	0	0
S	.5	1.6	0	0
SSW	.6	1.6	0	0
SW	.4	1.4	0	0
WSW	.6	1.4	1	0
W	.8	1.9	3	4
WNW	1.0	2.1	71	90
NW	.7	2.1	3	1
NNW	.7	2.0	14	3
N	.7	1.7	0	1

TABLE E-321

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.8	2	2
NE	.9	2.1	24	14
ENE	1.0	2.5	23	29
E	.8	2.1	0	5
ESE	.7	1.7	2	0
SE	.5	1.4	0	0
SSE	.6	1.4	0	0
S	.5	1.6	0	0
SSW	.1	1.5	3	2
SW	.5	1.4	0	0
WSW	.4	1.2	0	0
W	.2	1.5	0	0
WNW	.9	1.8	13	11
NW	.7	1.7	20	24
NNW	.6	1.6	12	5
N	.9	1.7	1	5

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.0	2	1
NE	1.1	2.2	26	14
ENE	1.3	2.6	21	27
E	1.2	2.2	3	9
ESE	1.0	1.9	8	2
SE	.5	1.9	0	0
SSE	.3	1.7	0	0
S	.7	1.8	0	0
SSW	.6	1.9	0	0
SW	.4	1.4	0	0
WSW	.5	1.3	0	0
W	.9	1.9	6	14
WNW	.9	2.0	27	29
NW	.7	1.7	4	3
NNW	.5	1.5	0	0
N	.5	2.0	0	0

LOCATION 36

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.0	0	0
NE	1.1	2.4	17	7
ENE	1.4	2.4	11	18
E	1.3	2.3	0	3
ESE	1.2	2.1	7	1
SE	.1	1.7	0	0
SSE	.6	1.8	0	0
S	.8	2.1	0	0
SSW	.9	2.0	0	0
SW	.4	1.6	0	0
WSW	.1	1.6	0	0
W	1.3	2.4	29	43
WNW	.9	2.0	23	18
NW	.8	2.2	11	8
NNW	.6	1.9	2	0
N	.6	2.0	0	0

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.1	0	0
NE	1.3	2.4	4	2
ENE	1.7	2.9	1	12
E	1.6	2.8	0	2
ESE	1.3	2.5	0	0
SE	.6	1.8	0	0
SSE	.1	1.5	0	0
S	.1	1.4	0	0
SSW	.5	1.4	0	0
SW	.4	1.3	0	0
WSW	.1	1.4	81	63
W	.7	1.6	0	0
WNW	1.0	2.3	1	0
NW	1.4	2.7	4	12
NNW	1.3	2.8	9	8
N	.4	1.6	0	0

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.7	0	0
NE	2.2	3.5	15	7
ENE	2.7	4.3	17	25
E	2.8	4.0	4	12
ESE	2.4	3.5	11	4
SE	1.3	2.5	0	0
SSE	1.2	2.6	0	0
S	.7	2.0	0	0
SSW	.3	1.7	0	0
SW	.1	1.7	0	0
WSW	1.0	2.0	0	0
W	1.7	2.8	0	2
WNW	1.9	3.2	19	21
NW	2.1	3.4	19	22
NNW	1.9	3.1	15	7
N	.3	1.8	0	0

LOCATION 37

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.3	1	2
NE	1.5	2.7	24	16
ENE	1.7	2.8	21	32
E	1.8	2.8	17	20
ESE	1.6	2.7	33	19
SE	.6	1.9	0	0
SSE	.7	2.0	0	0
S	.1	1.5	0	0
SSW	.4	1.8	0	0
SW	.1	1.3	0	0
WSW	.3	1.3	0	0
W	.7	1.9	0	0
WNW	.8	1.8	0	0
NW	.6	1.8	1	2
NNW	.6	2.0	2	0
N	.4	1.7	0	0

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.9	0	0
NE	.1	1.7	0	0
ENE	.1	1.5	1	7
E	.1	1.4	0	0
ESE	.3	1.3	0	0
SE	.4	1.3	0	0
SSE	.1	1.6	36	26
S	.1	1.3	0	0
SSW	.4	1.2	0	0
SW	.5	1.6	0	0
WSW	.4	1.4	0	0
W	.3	1.7	0	0
WNW	.7	2.0	9	6
NW	.9	2.2	34	48
NNW	.8	2.2	18	9
N	.7	1.9	0	2

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.8	0	0
NE	.3	1.6	0	0
ENE	.1	1.5	3	10
E	.1	1.6	0	0
ESE	.2	1.4	0	0
SE	.1	1.4	7	2
SSE	.1	1.4	0	0
S	.1	1.6	0	0
SSW	.1	1.5	0	0
SW	.1	1.7	0	0
WSW	.1	1.5	0	0
W	.4	1.7	0	0
WNW	.4	2.0	11	6
NW	.9	2.4	46	60
NNW	.7	2.2	28	16
N	.9	2.2	2	6

LOCATION 38

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.8	0	0
NE	.6	2.1	7	2
ENE	.7	1.9	1	5
E	.4	1.4	0	0
ESE	.6	1.5	0	0
SE	.1	1.6	0	0
SSE	.1	1.5	0	0
S	.5	1.6	0	0
SSW	.6	1.6	0	0
SW	.4	1.4	0	0
WSW	.6	1.4	0	0
W	.8	1.9	2	5
WNW	1.0	2.1	53	69
NW	.7	2.1	16	11
NNW	.7	2.0	19	7
N	.7	1.7	0	1

TABLE E-322

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.6	1.7	0	0
NE	.6	1.5	0	0
ENE	.6	1.5	0	0
E	.7	1.6	0	0
ESE	.7	1.8	0	0
SE	.7	2.3	0	0
SSE	.5	2.2	0	0
S	.6	2.3	0	0
SSW	.1	2.0	0	0
SW	.8	2.3	0	0
WSW	.8	2.3	0	0
W	.7	2.2	0	0
WNW	.8	2.4	1	0
NW	.8	2.3	0	0
NNW	1.8	3.0	94	92
N	1.4	2.8	4	9

LOCATION 41

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.6	1.6	0	0
NE	.9	1.8	3	1
ENE	1.2	2.1	2	11
E	1.1	2.1	0	2
ESE	1.3	2.3	6	3
SE	1.1	2.1	0	0
SSE	.7	1.7	0	0
S	.6	1.9	0	0
SSW	.7	2.1	0	0
SW	1.2	2.7	37	20
WSW	1.0	2.8	5	1
W	.7	2.4	0	0
WNW	.8	2.3	2	1
NW	.9	2.2	1	1
NNW	1.4	2.6	44	54
N	1.2	2.3	1	7

LOCATION 42

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	1.3	0	0
NE	.7	1.7	0	0
ENE	1.0	2.2	0	1
E	1.1	2.4	0	0
ESE	1.5	2.6	4	0
SE	1.0	2.0	0	0
SSE	.7	2.2	0	0
S	.9	2.2	0	0
SSW	.9	2.5	0	0
SW	.5	2.0	0	0
WSW	.9	2.5	0	0
W	1.4	2.9	5	8
WNW	1.7	3.2	62	75
NW	1.5	2.7	26	17
NNW	1.0	2.3	2	0
N	.9	2.1	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 42

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	1.9	0	0
NE	.8	2.0	0	0
ENE	1.2	2.5	0	2
E	1.1	2.6	0	0
ESE	1.3	2.5	1	0
SE	1.2	2.4	0	0
SSE	1.0	2.3	0	0
S	.8	2.2	0	0
SSW	.8	1.9	0	0
SW	.1	2.1	0	0
WSW	.6	2.0	0	0
W	1.3	2.7	0	1
WNW	1.7	3.1	61	76
NW	1.6	2.8	29	20
NNW	1.3	2.6	9	1
N	1.1	2.2	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	2.0	0	0
NE	.8	2.0	2	1
ENE	.6	2.1	0	0
E	.7	1.9	0	0
ESE	.9	2.1	0	0
SE	.8	1.9	0	0
SSE	.3	2.0	0	0
S	.9	2.4	0	1
SSW	1.0	2.2	0	1
SW	1.0	2.3	25	10
WSW	.7	1.8	1	0
W	.7	2.0	0	0
WNW	.9	2.1	13	14
NW	1.0	2.0	12	16
NNW	1.2	2.5	39	39
N	1.2	2.4	6	17

LOCATION 41

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.3	2.3	1	2
NE	1.2	2.4	7	4
ENE	1.3	2.6	2	13
E	1.2	2.4	0	2
ESE	1.5	3.2	13	9
SE	1.0	2.5	0	0
SSE	1.1	2.4	0	0
S	1.7	3.0	16	25
SSW	1.4	2.6	1	3
SW	1.5	3.0	50	31
WSW	1.1	2.4	4	1
W	.5	2.0	0	0
WNW	1.0	2.3	3	3
NW	.8	2.2	0	0
NNW	.8	2.3	2	0
N	1.3	2.2	1	7

LOCATION 42

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.0	1	1
NE	.9	2.3	9	5
ENE	.6	1.9	0	1
E	1.2	2.3	3	15
ESE	1.4	2.7	64	43
SE	.4	2.1	0	0
SSE	.3	1.3	0	0
S	.1	1.6	0	0
SSW	.1	1.5	0	0
SW	.5	1.9	0	0
WSW	.5	1.9	0	0
W	.4	1.7	0	0
WNW	.7	1.8	3	2
NW	.9	1.5	16	30
NNW	.7	1.7	4	1
N	.7	1.8	0	1

TABLE E-323

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.6	1.7	0	0
NE	.6	1.5	0	0
ENE	.6	1.5	0	0
E	.7	1.6	0	0
ESE	.7	1.8	0	0
SE	.7	2.3	0	0
SSE	.5	2.2	0	0
S	.6	2.3	0	0
SSW	.1	2.0	0	0
SW	.8	2.3	5	1
WSW	.8	2.3	5	0
W	.7	2.2	0	1
WNW	.8	2.4	11	7
NW	.8	2.3	7	6
NNW	1.8	3.0	68	72
N	1.4	2.8	5	13

LOCATION 41

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.6	1.6	0	0
NE	.9	1.8	1	1
ENE	1.2	2.1	0	7
E	1.1	2.1	0	1
ESE	1.3	2.3	6	4
SE	1.1	2.1	0	0
SSE	.7	1.7	0	0
S	.6	1.9	0	0
SSW	.7	2.1	0	0
SW	1.2	2.7	36	22
WSW	1.0	2.8	18	7
W	.7	2.4	0	3
WNW	.8	2.3	8	13
NW	.9	2.2	2	5
NNW	1.4	2.6	28	34
N	1.2	2.3	0	3

LOCATION 42

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.7	1.3	0	0
NE	.7	1.7	0	0
ENE	1.0	2.2	0	2
E	1.1	2.4	0	0
ESE	1.5	2.6	2	0
SE	1.0	2.0	0	0
SSE	.7	2.2	0	0
S	.9	2.2	0	0
SSW	.9	2.5	0	0
SW	.5	2.0	0	0
WSW	.9	2.5	1	0
W	1.4	2.9	10	13
WNW	1.7	3.2	63	75
NW	1.5	2.7	20	11
NNW	1.0	2.3	4	0
N	.9	2.1	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 42

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	1.9	0	0
NE	.8	2.0	0	0
ENE	1.2	2.5	0	3
E	1.1	2.6	0	0
ESE	1.3	2.5	1	0
SE	1.2	2.4	0	0
SSE	1.0	2.3	0	0
S	.8	2.2	0	0
SSW	.8	1.9	0	0
SW	.1	2.1	0	0
WSW	.6	2.0	0	0
W	1.3	2.7	1	3
WNW	1.7	3.1	65	80
NW	1.6	2.8	22	13
NNW	1.3	2.6	10	1
N	1.1	2.2	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 40

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.8	2.0	0	1
NE	.8	2.0	4	1
ENE	.6	2.1	0	3
E	.7	1.9	0	0
ESE	.9	2.1	1	0
SE	.8	1.9	0	0
SSE	.3	2.0	0	0
S	.9	2.4	2	3
SSW	1.0	2.2	0	1
SW	1.0	2.3	28	13
WSW	.7	1.8	1	0
W	.7	2.0	0	1
WNW	.9	2.1	12	14
NW	1.0	2.0	8	10
NNW	1.2	2.5	39	40
N	1.2	2.4	3	13

LOCATION 41

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	1.3	2.3	0	1
NE	1.2	2.4	7	4
ENE	1.3	2.6	1	12
E	1.2	2.4	0	2
ESE	1.5	3.2	15	12
SE	1.0	2.5	3	0
SSE	1.1	2.4	0	0
S	1.7	3.0	9	16
SSW	1.4	2.6	0	2
SW	1.5	3.0	51	34
WSW	1.1	2.4	7	2
W	.5	2.0	0	0
WNW	1.0	2.3	5	9
NW	.8	2.2	0	1
NNW	.9	2.3	4	2
N	1.3	2.2	0	2

LOCATION 42

WIND ANGLE	RATIOS MEAN	GUST	WEIGHT SUM	WINT
NNE	.9	2.0	0	0
NE	.9	2.3	10	6
ENE	.6	1.9	0	2
E	1.2	2.3	0	6
ESE	1.4	2.7	42	29
SE	.4	2.1	0	0
SSE	.3	1.3	0	0
S	.1	1.6	39	48
SSW	.1	1.5	0	0
SW	.5	1.9	3	2
WSW	.5	1.9	0	0
W	.4	1.7	0	0
WNW	.7	1.8	3	3
NW	.9	1.5	0	0
NNW	.7	1.7	2	0
N	.7	1.8	0	1

TABLE E-324

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 43

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.4	2.5	17	18
NE	1.1	2.3	18	12
ENE	.7	1.9	0	3
E	.4	1.4	0	0
ESE	1.3	3.0	46	29
SE	1.0	2.4	0	0
SSE	.8	2.5	0	0
S	.4	1.9	0	0
SSW	.3	1.8	0	0
SW	.7	1.5	1	0
WSW	.8	1.8	3	0
W	.6	1.5	0	0
WNW	.6	1.4	0	0
NW	.5	1.9	0	0
NNW	.3	2.3	0	0
N	1.3	2.5	14	38

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 44

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.7	0	0
NE	.4	1.5	0	0
ENE	.1	1.5	0	0
E	.6	1.5	0	0
ESE	.9	2.4	0	0
SE	1.2	2.8	0	0
SSE	1.0	2.2	0	0
S	1.0	2.4	0	0
SSW	.9	2.0	0	0
SW	1.1	2.6	14	6
WSW	1.2	2.5	14	2
W	1.0	2.3	0	1
WNW	1.2	2.6	19	27
NW	1.3	2.6	24	38
NNW	1.4	3.0	29	25
N	.8	2.4	0	0

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.3	2	4
NE	.9	2.3	8	7
ENE	.7	2.0	0	3
E	.8	1.9	0	1
ESE	.9	2.0	1	1
SE	.7	2.0	0	0
SSE	.7	2.0	0	0
S	1.0	2.4	2	8
SSW	1.2	2.5	14	12
SW	.9	2.3	16	14
WSW	1.2	2.6	53	44
W	.3	1.7	0	0
WNW	.2	1.6	0	0
NW	.5	1.7	0	0
NNW	.7	2.3	2	1
N	.9	2.2	0	6

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.1	1	2
NE	1.0	2.4	10	8
ENE	.6	2.2	0	1
E	.6	1.8	0	0
ESE	1.1	2.3	8	8
SE	.9	2.0	0	0
SSE	.8	2.1	0	0
S	1.1	2.6	4	11
SSW	1.2	2.5	9	9
SW	1.0	2.5	18	15
WSW	1.2	2.6	38	27
W	.6	1.8	0	0
WNW	.5	1.6	0	0
NW	.4	1.8	0	0
NNW	.9	2.2	10	10
N	1.0	2.2	1	9

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.6	4	5
NE	.5	1.8	0	0
ENE	.6	1.7	0	0
E	.5	2.1	0	0
ESE	.9	2.4	0	0
SE	.8	2.3	0	0
SSE	1.2	2.4	0	0
S	1.3	2.8	8	10
SSW	1.2	2.8	3	3
SW	1.2	2.5	36	17
WSW	.9	2.5	2	0
W	.6	1.9	0	0
WNW	.4	1.8	0	0
NW	.7	1.8	0	0
NNW	1.2	2.4	31	31
N	1.5	2.7	13	33

TABLE E-325

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 43

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.4	2.5	17	12
NE	1.1	2.3	18	12
ENE	.7	1.9	0	6
E	.4	1.4	0	0
ESE	1.3	3.0	51	33
SE	1.0	2.4	1	1
SSE	.8	2.5	0	0
S	.4	1.9	0	1
SSW	.3	1.8	0	0
SW	.7	1.5	0	0
WSW	.8	1.8	0	0
W	.6	1.5	0	0
WNW	.6	1.4	0	0
NW	.5	1.9	0	0
NNW	.3	2.3	8	4
N	1.3	2.5	10	30

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 44

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.7	0	0
NE	.4	1.5	0	0
ENE	.1	1.5	0	0
E	.6	1.5	0	0
ESE	.9	2.4	1	0
SE	1.2	2.8	0	0
SSE	1.0	2.2	0	0
S	1.0	2.4	0	0
SSW	.9	2.0	0	0
SW	1.1	2.6	16	7
WSW	1.2	2.5	12	2
W	1.0	2.3	0	3
WNW	1.2	2.6	21	31
NW	1.3	2.6	18	28
NNW	1.4	3.0	31	28
N	.8	2.4	0	1

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.3	1	3
NE	.9	2.3	8	6
ENE	.7	2.0	0	6
E	.8	1.9	0	1
ESE	.9	2.0	0	1
SE	.7	2.0	0	0
SSE	.7	2.0	0	0
S	1.0	2.4	3	8
SSW	1.2	2.5	5	7
SW	.9	2.3	29	23
WSW	1.2	2.6	45	33
W	.3	1.7	0	0
WNW	.2	1.6	0	0
NW	.5	1.7	0	0
NNW	.7	2.3	7	6
N	.9	2.2	0	7

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.1	0	1
NE	1.0	2.4	10	8
ENE	.6	2.2	0	5
E	.6	1.8	0	0
ESE	1.1	2.3	4	4
SE	.8	2.0	0	0
SSE	.8	2.1	0	0
S	1.1	2.6	3	9
SSW	1.2	2.5	2	5
SW	1.0	2.5	29	23
WSW	1.2	2.6	40	28
W	.6	1.8	0	0
WNW	.5	1.6	0	0
NW	.4	1.8	0	0
NNW	.9	2.2	11	12
N	1.0	2.2	0	6

LOCATION 48

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.6	3	4
NE	.5	1.8	1	0
ENE	.6	1.7	0	1
E	.5	2.1	0	0
ESE	.9	2.4	1	1
SE	.8	2.3	0	0
SSE	1.2	2.4	0	0
S	1.3	2.8	8	14
SSW	1.2	2.8	6	6
SW	1.2	2.5	39	24
WSW	.9	2.5	14	5
W	.6	1.9	0	0
WNW	.4	1.8	0	0
NW	.7	1.8	0	0
NNW	1.2	2.4	22	23
N	1.5	2.7	5	21

TABLE E-326

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.2	0	0
NE	.8	2.2	1	0
ENE	1.1	2.7	1	11
E	.8	1.6	0	0
ESE	.6	2.1	0	0
SE	.8	1.7	0	0
SSE	.5	2.1	0	0
S	.8	2.1	0	0
SSW	1.2	2.3	0	2
SW	1.4	2.6	50	43
WSW	1.4	2.9	46	39
W	.8	1.9	0	0
WNW	.8	2.2	1	1
NW	.8	2.0	0	1
NNW	.8	2.3	2	1
N	.7	1.8	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.4	0	0
NE	.8	2.5	0	0
ENE	.9	2.6	0	0
E	1.6	3.1	0	3
ESE	2.5	3.8	50	45
SE	1.9	3.4	0	1
SSE	1.5	2.9	0	0
S	1.7	2.9	1	4
SSW	1.3	2.6	0	0
SW	1.5	2.9	10	8
WSW	1.7	3.1	18	9
W	1.1	2.3	0	0
WNW	1.1	2.2	1	1
NW	1.4	2.3	2	7
NNW	1.7	2.8	16	20
N	1.4	2.5	0	2

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.2	0	0
NE	.5	2.1	0	0
ENE	.6	1.9	0	0
E	1.1	2.3	0	0
ESE	.7	1.7	0	0
SE	.4	1.8	0	0
SSE	.4	1.5	0	0
S	.7	1.6	0	0
SSW	.6	2.3	0	0
SW	1.9	3.7	51	30
WSW	1.2	3.4	0	0
W	.8	2.3	0	0
WNW	1.4	2.9	7	10
NW	1.4	2.8	5	10
NNW	1.9	3.6	37	46
N	1.5	3.0	0	4

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.3	0	0
NE	1.0	2.6	3	2
ENE	1.1	2.5	0	7
E	.7	2.0	0	0
ESE	.9	2.4	0	0
SE	.7	2.1	0	0
SSE	.7	1.8	0	0
S	.6	2.0	0	0
SSW	1.1	2.4	0	1
SW	1.3	2.6	36	32
WSW	1.6	2.9	56	49
W	.9	2.3	0	0
WNW	.8	2.3	0	0
NW	1.0	2.5	1	4
NNW	1.0	2.4	4	4
N	.7	2.1	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.5	0	0
NE	.7	2.5	0	0
ENE	.9	2.4	0	0
E	1.6	3.1	0	2
ESE	2.6	4.0	58	49
SE	1.9	3.2	0	1
SSE	1.6	3.0	0	0
S	1.8	3.0	2	5
SSW	1.3	2.7	0	0
SW	1.4	2.9	3	2
WSW	1.7	3.2	14	5
W	1.0	2.4	0	0
WNW	1.2	2.4	1	1
NW	1.5	2.5	3	9
NNW	1.7	2.9	18	21
N	1.6	2.8	0	4

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.7	0	0
NE	.3	1.9	0	0
ENE	.7	1.9	0	0
E	1.2	2.6	0	0
ESE	.7	2.1	0	0
SE	.7	1.9	0	0
SSE	.6	2.2	0	0
S	.2	2.0	0	0
SSW	.5	2.3	0	0
SW	1.7	3.7	40	21
WSW	1.2	3.3	1	0
W	.9	2.6	0	0
WNW	1.4	3.1	9	12
NW	1.4	2.9	7	11
NNW	1.9	3.5	41	48
N	1.6	3.1	1	7

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-327

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.2	0	0
NE	.8	2.2	3	2
ENE	1.1	2.7	2	15
E	.8	1.6	0	0
ESE	.6	2.1	0	0
SE	.8	1.7	0	0
SSE	.5	2.1	0	0
S	.8	2.1	0	0
SSW	1.2	2.3	0	2
SW	1.4	2.6	39	32
WSW	1.4	2.9	47	37
W	.8	1.9	0	1
WNW	.8	2.2	2	3
NW	.8	2.0	0	2
NNW	.8	2.3	6	5
N	.7	1.8	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.4	0	0
NE	.8	2.5	1	1
ENE	.9	2.6	0	4
E	1.6	3.1	0	5
ESE	2.5	3.8	38	33
SE	1.9	3.4	0	1
SSE	1.5	2.9	0	0
S	1.7	2.9	1	4
SSW	1.3	2.6	0	1
SW	1.5	2.9	17	13
WSW	1.7	3.1	24	13
W	1.1	2.3	0	1
WNW	1.1	2.2	1	1
NW	1.4	2.3	1	4
NNW	1.7	2.8	15	17
N	1.4	2.5	0	2

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.2	0	0
NE	.5	2.1	0	0
ENE	.6	1.9	0	0
E	1.1	2.3	0	0
ESE	.7	1.7	0	0
SE	.4	1.8	0	0
SSE	.4	1.5	0	0
S	.7	1.6	0	0
SSW	.6	2.3	0	0
SW	1.9	3.7	50	31
WSW	1.2	3.4	6	1
W	.8	2.3	0	0
WNW	1.4	2.9	11	20
NW	1.4	2.8	4	10
NNW	1.9	3.6	28	34
N	1.5	3.0	0	3

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 50

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.3	0	1
NE	1.0	2.6	7	5
ENE	1.1	2.5	1	10
E	.7	2.0	0	0
ESE	.9	2.4	0	0
SE	.7	2.1	0	0
SSE	.7	1.8	0	0
S	.6	2.0	0	0
SSW	1.1	2.4	0	1
SW	1.3	2.6	33	26
WSW	1.6	2.9	46	34
W	.9	2.3	0	1
WNW	.8	2.3	3	6
NW	1.0	2.5	2	7
NNW	1.0	2.4	9	8
N	.7	2.1	0	0

LOCATION 51

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.5	0	0
NE	.7	2.5	1	0
ENE	.9	2.4	0	2
E	1.6	3.1	0	4
ESE	2.6	4.0	45	38
SE	1.9	3.2	0	1
SSE	1.6	3.0	0	0
S	1.8	3.0	1	4
SSW	1.3	2.7	0	0
SW	1.4	2.9	11	8
WSW	1.7	3.2	21	10
W	1.0	2.4	0	1
WNW	1.2	2.4	3	3
NW	1.5	2.5	2	6
NNW	1.7	2.9	15	16
N	1.6	2.8	0	4

LOCATION 52

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.7	0	0
NE	.3	1.9	0	0
ENE	.7	1.9	0	0
E	1.2	2.6	0	0
ESE	.7	2.1	0	0
SE	.7	1.9	0	0
SSE	.6	2.2	0	0
S	.2	2.0	0	0
SSW	.5	2.3	0	0
SW	1.7	3.4	46	26
WSW	1.2	3.3	5	1
W	.9	2.6	0	0
WNW	1.4	3.1	14	25
NW	1.4	2.9	6	11
NNW	1.9	3.5	29	33
N	1.6	3.1	0	4

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-328

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	2.4	0	0
NE	.4	2.0	0	0
ENE	.5	1.9	0	0
E	.8	1.9	0	0
ESE	1.0	1.9	0	0
SE	1.2	2.3	0	0
SSE	1.4	2.8	0	0
S	1.6	3.0	3	9
SSW	1.7	3.2	2	5
SW	1.3	3.1	5	5
WSW	2.1	3.6	90	82
W	.6	2.2	0	0
WNW	.7	2.8	0	0
NW	.8	3.6	0	0
NNW	.1	1.7	0	0
N	.1	1.7	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.8	0	0
NE	.6	1.9	0	0
ENE	.9	2.2	0	3
E	.9	2.0	0	0
ESE	.9	1.9	0	0
SE	.8	1.9	0	0
SSE	.8	2.3	0	0
S	1.0	2.5	1	1
SSW	1.3	3.0	7	4
SW	1.1	2.8	21	7
WSW	1.1	2.7	13	2
W	1.3	2.8	33	67
WNW	.8	2.0	1	0
NW	.9	2.3	3	3
NNW	1.1	2.2	20	13
N	.8	2.5	0	0

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.1	0	0
NE	.6	1.9	0	0
ENE	1.0	2.2	1	7
E	1.5	2.5	3	14
ESE	1.6	2.4	50	30
SE	1.1	2.1	0	0
SSE	1.1	2.2	0	0
S	1.2	2.4	3	5
SSW	.9	2.6	0	0
SW	1.0	2.9	14	6
WSW	.9	2.8	4	0
W	1.1	2.8	7	28
WNW	.8	2.1	2	0
NW	.8	2.0	0	0
NNW	1.0	2.4	13	8
N	.7	1.9	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	2.2	0	0
NE	.4	1.9	0	0
ENE	.6	2.1	0	0
E	.9	2.1	0	0
ESE	1.1	2.1	0	0
SE	1.1	2.1	0	0
SSE	1.3	2.7	0	0
S	1.7	3.0	3	9
SSW	1.7	3.3	3	6
SW	1.0	2.9	0	0
WSW	2.2	3.7	94	86
W	.7	2.2	0	0
WNW	.6	2.9	0	0
NW	.8	3.3	0	0
NNW	.5	1.8	0	0
N	.5	1.7	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.2	0	0
NE	.5	1.5	0	0
ENE	.8	2.6	0	1
E	.9	2.2	0	0
ESE	1.0	2.3	1	0
SE	.6	1.6	0	0
SSE	.7	2.2	0	0
S	.9	2.5	0	0
SSW	1.3	3.0	7	4
SW	1.1	2.8	17	5
WSW	1.0	2.7	10	1
W	1.4	2.9	43	76
WNW	.8	2.1	2	0
NW	.9	2.2	2	1
NNW	1.1	2.3	17	9
N	1.0	2.2	0	1

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.3	0	0
NE	.6	2.0	0	0
ENE	1.0	2.6	0	2
E	1.5	2.7	0	4
ESE	1.7	2.8	21	8
SE	1.4	2.6	0	0
SSE	1.1	2.5	0	0
S	1.1	2.4	0	0
SSW	1.0	2.6	0	0
SW	1.2	3.0	12	4
WSW	.9	3.0	0	0
W	1.4	3.4	5	18
WNW	1.1	2.7	5	2
NW	1.5	3.2	26	35
NNW	1.5	3.2	28	20
N	1.5	3.2	1	6

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-329

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.4	2.4	0	0
NE	.4	2.0	0	0
ENE	.5	1.9	0	0
E	.8	1.9	0	0
ESE	1.0	1.9	0	0
SE	1.2	2.3	0	0
SSE	1.4	2.8	0	0
S	1.6	3.0	2	6
SSW	1.7	3.2	2	4
SW	1.3	3.1	22	16
WSW	2.1	3.6	67	51
W	.6	2.2	0	0
WNW	.7	2.8	1	1
NW	.8	3.6	7	20
NNW	.1	1.7	0	0
N	.1	1.7	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.8	0	0
NE	.6	1.9	1	0
ENE	.9	2.2	0	4
E	.9	2.0	0	0
ESE	.9	1.9	0	0
SE	.8	1.9	0	0
SSE	.8	2.3	0	0
S	1.0	2.5	1	2
SSW	1.3	3.0	10	6
SW	1.1	2.8	33	16
WSW	1.1	2.7	19	5
W	1.3	2.8	20	56
WNW	.8	2.0	3	1
NW	.9	2.3	3	4
NNW	1.1	2.2	9	5
N	.8	2.5	0	2

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.1	0	0
NE	.6	1.9	1	0
ENE	1.0	2.2	1	7
E	1.5	2.5	0	4
ESE	1.6	2.4	9	4
SE	1.1	2.1	0	0
SSE	1.1	2.2	0	0
S	1.2	2.4	1	2
SSW	.9	2.6	0	1
SW	1.0	2.9	37	18
WSW	.9	2.8	16	4
W	1.1	2.8	18	51
WNW	.8	2.1	3	1
NW	.8	2.0	1	1
NNW	1.0	2.4	13	8
N	.7	1.9	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 53

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	2.2	0	0
NE	.4	1.9	0	0
ENE	.6	2.1	0	0
E	.9	2.1	0	0
ESE	1.1	2.1	0	0
SE	1.1	2.1	0	0
SSE	1.3	2.7	0	0
S	1.7	3.0	2	7
SSW	1.7	3.3	3	6
SW	1.0	2.9	11	9
WSW	2.2	3.7	77	63
W	.7	2.2	0	0
WNW	.6	2.9	1	2
NW	.8	3.3	4	13
NNW	.5	1.8	0	0
N	.5	1.7	0	0

LOCATION 54

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.2	0	0
NE	.5	1.5	0	0
ENE	.8	2.6	0	5
E	.9	2.2	0	0
ESE	1.0	2.3	0	0
SE	.6	1.6	0	0
SSE	.7	2.2	0	0
S	.9	2.5	0	1
SSW	1.3	3.0	11	6
SW	1.1	2.8	37	19
WSW	1.0	2.7	20	6
W	1.4	2.9	15	51
WNW	.8	2.1	4	3
NW	.9	2.2	1	2
NNW	1.1	2.3	10	5
N	1.0	2.2	0	1

LOCATION 55

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.3	0	0
NE	.6	2.0	0	0
ENE	1.0	2.6	0	3
E	1.5	2.7	0	1
ESE	1.7	2.8	3	1
SE	1.4	2.6	0	0
SSE	1.1	2.5	0	0
S	1.1	2.4	0	0
SSW	1.0	2.6	0	0
SW	1.2	3.0	21	7
WSW	.9	3.0	4	0
W	1.4	3.4	18	38
WNW	1.1	2.7	6	3
NW	1.5	3.2	22	26
NNW	1.5	3.2	25	15
N	1.5	3.2	1	6

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-330

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.6	0	0
NE	.9	2.1	1	0
ENE	1.2	2.3	1	8
E	1.5	2.5	0	7
ESE	1.8	2.7	29	18
SE	1.3	2.4	0	0
SSE	1.0	2.2	0	0
S	1.2	2.5	0	1
SSW	1.2	2.4	0	0
SW	1.0	2.8	2	1
WSW	1.5	3.1	38	16
W	1.2	3.1	1	9
WNW	1.3	2.8	18	32
NW	1.1	2.5	3	5
NNW	1.1	2.4	5	2
N	.7	1.7	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.4	0	0
NE	.8	1.9	1	0
ENE	.8	2.1	0	1
E	.8	2.2	0	0
ESE	1.1	2.6	0	0
SE	1.0	2.4	0	0
SSE	.6	2.1	0	0
S	.6	1.9	0	0
SSW	.9	2.2	0	0
SW	1.3	2.6	38	19
WSW	1.4	2.8	31	11
W	1.4	2.8	18	56
WNW	1.0	2.4	6	6
NW	1.0	2.2	4	6
NNW	.7	1.7	0	0
N	.4	1.8	0	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.7	0	0
NE	.9	2.6	2	1
ENE	1.2	2.8	1	8
E	1.4	2.6	0	6
ESE	1.5	2.8	16	8
SE	1.3	2.4	0	0
SSE	1.0	2.3	0	0
S	1.3	2.5	2	2
SSW	1.3	2.8	1	2
SW	1.1	2.7	6	2
WSW	1.4	3.3	34	12
W	1.2	3.1	1	11
WNW	1.2	2.6	22	38
NW	1.1	2.3	3	4
NNW	1.1	2.2	10	5
N	.7	1.9	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.0	0	0
NE	.7	2.0	0	0
ENE	.9	2.4	0	1
E	1.6	2.8	1	9
ESE	1.9	3.0	33	20
SE	1.5	2.7	0	0
SSE	1.1	2.4	0	0
S	1.1	2.6	0	0
SSW	1.1	2.5	0	0
SW	1.0	2.8	2	1
WSW	1.5	3.3	32	11
W	1.3	3.2	2	15
WNW	1.3	2.8	21	38
NW	1.2	2.7	3	4
NNW	1.1	2.4	4	1
N	.8	2.0	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.9	0	0
NE	.6	1.7	0	0
ENE	.9	2.3	0	1
E	1.0	2.2	0	0
ESE	1.3	2.8	2	1
SE	.9	2.6	0	0
SSE	.6	2.0	0	0
S	.7	2.1	0	0
SSW	1.0	2.5	0	0
SW	1.2	3.2	16	7
WSW	1.5	3.0	40	14
W	1.5	3.1	25	61
WNW	1.2	2.5	12	13
NW	1.1	2.4	4	4
NNW	.8	1.9	0	0
N	.9	1.9	0	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.3	0	0
NE	.8	2.2	1	0
ENE	1.2	2.7	0	6
E	1.5	2.9	0	5
ESE	1.7	2.8	19	9
SE	1.4	2.4	0	0
SSE	1.1	2.5	0	0
S	1.2	3.0	0	0
SSW	1.4	3.2	1	2
SW	1.1	2.7	7	3
WSW	1.4	3.4	26	7
W	1.3	3.3	2	12
WNW	1.4	2.6	27	46
NW	1.2	2.3	5	6
NNW	1.2	2.7	9	4
N	.9	2.4	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.6	0	0
NE	1.2	2.6	1	0
ENE	1.5	2.6	0	5
E	2.0	3.1	0	7
ESE	2.4	3.5	26	22
SE	1.8	2.8	0	0
SSE	1.4	2.4	0	0
S	1.4	2.6	0	0
SSW	1.3	2.8	0	0
SW	1.3	2.8	1	1
WSW	2.3	3.8	63	45
W	1.4	3.0	0	3
WNW	1.5	2.7	7	15
NW	1.4	2.8	1	1
NNW	1.1	2.3	0	0
N	1.1	2.9	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.7	0	0
NE	.5	1.7	0	0
ENE	.8	1.8	0	0
E	.9	2.1	0	0
ESE	1.1	2.2	0	0
SE	.9	2.2	0	0
SSE	.7	2.1	0	0
S	.7	1.8	0	0
SSW	1.0	2.5	0	0
SW	2.0	3.8	31	27
WSW	2.5	4.1	67	59
W	1.7	3.1	0	10
WNW	1.4	2.7	1	2
NW	1.4	2.4	0	1
NNW	.8	2.3	0	0
N	.2	1.8	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	3.0	2	2
NE	1.4	3.3	30	15
ENE	.8	2.6	0	2
E	.7	2.5	0	0
ESE	.5	2.1	0	0
SE	.8	2.6	0	0
SSE	.8	2.4	0	0
S	.5	1.6	0	0
SSW	.7	1.8	0	0
SW	.1	1.6	0	0
WSW	.5	1.6	0	0
W	.6	1.7	0	0
WNW	1.0	2.2	22	29
NW	.8	2.3	3	3
NNW	1.2	2.7	41	39
N	1.0	2.4	1	4

TABLE E-331

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.6	0	0
NE	.9	2.1	2	0
ENE	1.2	2.3	0	5
E	1.5	2.5	0	2
ESE	1.8	2.7	6	3
SE	1.3	2.4	0	0
SSE	1.0	2.2	0	0
S	1.2	2.5	0	0
SSW	1.2	2.4	0	0
SW	1.0	2.8	13	5
WSW	1.5	3.1	37	12
W	1.2	3.1	10	34
WNW	1.3	2.8	22	34
NW	1.1	2.5	3	3
NNW	1.1	2.4	6	2
N	.7	1.7	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.4	0	0
NE	.8	1.9	1	0
ENE	.8	2.1	0	2
E	.8	2.2	0	0
ESE	1.1	2.6	1	0
SE	1.0	2.4	0	0
SSE	.6	2.1	0	0
S	.6	1.9	0	0
SSW	.9	2.2	0	0
SW	1.3	2.6	38	18
WSW	1.4	2.8	24	6
W	1.4	2.8	24	61
WNW	1.0	2.4	9	9
NW	1.0	2.2	3	4
NNW	.7	1.7	0	0
N	.4	1.8	0	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.7	0	0
NE	.9	2.6	4	1
ENE	1.2	2.8	1	9
E	1.4	2.6	0	2
ESE	1.5	2.8	4	2
SE	1.3	2.4	0	0
SSE	1.0	2.3	0	0
S	1.3	2.5	1	1
SSW	1.3	2.8	1	1
SW	1.1	2.9	10	4
WSW	1.4	3.3	40	14
W	1.2	3.1	14	41
WNW	1.2	2.6	17	23
NW	1.1	2.3	1	0
NNW	1.1	2.2	7	2
N	.7	1.9	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	2.0	0	0
NE	.7	2.0	0	0
ENE	.9	2.4	0	3
E	1.6	2.8	0	3
ESE	1.9	3.0	8	3
SE	1.5	2.7	0	0
SSE	1.1	2.4	0	0
S	1.1	2.6	0	0
SSW	1.1	2.5	0	0
SW	1.0	2.8	9	3
WSW	1.5	3.3	32	9
W	1.3	3.2	17	43
WNW	1.3	2.8	22	31
NW	1.2	2.7	5	5
NNW	1.1	2.4	6	2
N	.8	2.0	0	0

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.9	0	0
NE	.6	1.7	0	0
ENE	.9	2.3	0	1
E	1.0	2.2	0	0
ESE	1.3	2.8	1	0
SE	.9	2.6	0	0
SSE	.6	2.0	0	0
S	.7	2.1	0	0
SSW	1.0	2.5	0	0
SW	1.2	3.2	35	16
WSW	1.5	3.0	26	7
W	1.5	3.1	23	58
WNW	1.2	2.5	10	11
NW	1.1	2.4	5	6
NNW	.8	1.9	1	0
N	.9	1.9	0	0

LOCATION 58

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.3	0	0
NE	.8	2.2	1	0
ENE	1.2	2.7	1	7
E	1.5	2.9	0	3
ESE	1.7	2.8	5	2
SE	1.4	2.4	0	0
SSE	1.1	2.5	0	0
S	1.2	3.0	1	1
SSW	1.4	3.2	2	2
SW	1.1	2.7	10	4
WSW	1.4	3.4	35	11
W	1.3	3.3	12	37
WNW	1.4	2.6	19	27
NW	1.2	2.3	1	1
NNW	1.2	2.7	12	6
N	.9	2.4	0	0

2000 FULL-BUILD POST-MITIGATION

LOCATION 56

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.6	0	0
NE	1.2	2.6	3	1
ENE	1.5	2.6	0	5
E	2.0	3.1	0	4
ESE	2.4	3.5	13	10
SE	1.8	2.8	0	0
SSE	1.4	2.4	0	0
S	1.4	2.6	0	0
SSW	1.3	2.8	0	0
SW	1.3	2.8	5	3
WSW	2.3	3.8	66	43
W	1.4	3.0	1	11
WNW	1.5	2.7	8	15
NW	1.4	2.8	2	5
NNW	1.1	2.3	1	0
N	1.1	2.9	0	1

LOCATION 57

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.7	0	0
NE	.5	1.7	0	0
ENE	.8	1.8	0	0
E	.9	2.1	0	0
ESE	1.1	2.2	0	0
SE	.9	2.2	0	0
SSE	.7	2.1	0	0
S	.7	1.8	0	0
SSW	1.0	2.5	0	0
SW	2.0	3.8	38	31
WSW	2.5	4.1	58	47
W	1.7	3.1	1	16
WNW	1.4	2.7	2	4
NW	1.4	2.4	0	1
NNW	.8	2.3	0	0
N	.2	1.8	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	3.0	5	5
NE	1.4	3.3	33	22
ENE	.8	2.6	2	9
E	.7	2.5	0	1
ESE	.5	2.1	0	0
SE	.8	2.6	0	0
SSE	.8	2.4	0	0
S	.5	1.6	0	0
SSW	.7	1.8	0	0
SW	.1	1.6	0	0
WSW	.5	1.6	0	0
W	.6	1.7	0	0
WNW	1.0	2.2	17	21
NW	.8	2.3	7	8
NNW	1.2	2.7	33	28
N	1.0	2.4	1	5

TABLE E-332

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.2	0	0
NE	.8	2.2	0	0
ENE	1.2	2.8	0	3
E	1.2	2.5	0	1
ESE	1.6	2.7	6	3
SE	1.3	2.5	0	0
SSE	1.0	2.5	0	0
S	1.4	2.7	1	2
SSW	1.6	3.2	3	3
SW	1.4	3.0	23	11
WSW	1.4	3.3	15	4
W	1.3	3.1	1	7
WNW	1.4	2.8	19	33
NW	1.3	2.5	5	8
NNW	1.6	2.9	27	25
N	.6	1.9	0	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.4	0	0
NE	.8	2.2	0	0
ENE	1.1	2.6	0	2
E	1.3	2.4	0	0
ESE	1.6	2.6	4	2
SE	1.2	2.4	0	0
SSE	1.0	2.4	0	0
S	1.4	2.9	1	1
SSW	1.6	3.1	2	2
SW	1.3	3.0	10	4
WSW	1.5	3.4	18	4
W	1.4	3.2	2	10
WNW	1.5	2.9	25	40
NW	1.4	2.7	11	14
NNW	1.6	2.9	27	22
N	.6	2.2	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.3	0	0
NE	.7	2.0	0	0
ENE	.6	1.8	0	0
E	.5	1.8	0	0
ESE	.7	2.2	0	0
SE	.9	2.1	0	0
SSE	.7	2.1	0	0
S	.4	2.1	0	0
SSW	.7	2.6	0	0
SW	.8	2.7	0	0
WSW	1.6	3.5	46	16
W	1.1	2.5	0	2
WNW	1.3	2.7	23	33
NW	1.4	3.0	32	50
NNW	.8	2.0	1	0
N	.5	1.4	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	3.0	0	0
NE	.7	1.6	0	0
ENE	.5	1.9	0	0
E	.7	2.0	0	0
ESE	.8	2.0	0	0
SE	.9	2.0	0	0
SSE	.7	1.9	0	0
S	.5	2.2	0	0
SSW	.7	2.3	0	0
SW	.8	2.6	0	0
WSW	1.9	3.8	61	28
W	1.4	3.1	1	10
WNW	1.5	3.2	23	40
NW	1.5	3.1	15	24
NNW	.8	2.2	0	0
N	.5	1.7	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.7	0	0
NE	.9	2.1	1	0
ENE	.9	2.0	0	1
E	1.4	2.6	0	2
ESE	1.6	2.8	13	5
SE	1.4	2.6	0	0
SSE	1.0	2.5	0	0
S	.8	2.3	0	0
SSW	.9	2.7	0	0
SW	1.0	2.9	3	1
WSW	1.4	3.1	23	5
W	1.4	2.9	4	15
WNW	1.4	2.8	30	48
NW	1.3	2.5	14	18
NNW	1.3	2.5	12	5
N	.6	2.3	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-333

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.2	0	0
NE	.8	2.2	1	0
ENE	1.2	2.8	0	6
E	1.2	2.5	0	0
ESE	1.6	2.7	2	1
SE	1.3	2.5	0	0
SSE	1.0	2.5	0	0
S	1.4	2.7	1	1
SSW	1.6	3.2	1	2
SW	1.4	3.0	28	14
WSW	1.4	3.3	24	7
W	1.3	3.1	5	25
WNW	1.4	2.8	16	25
NW	1.3	2.5	3	4
NNW	1.6	2.9	19	15
N	.6	1.9	0	0

LOCATION 59

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.4	0	0
NE	.8	2.2	1	0
ENE	1.1	2.6	0	3
E	1.3	2.4	0	0
ESE	1.6	2.6	1	0
SE	1.2	2.4	0	0
SSE	1.0	2.4	0	0
S	1.4	2.9	1	1
SSW	1.6	3.1	1	2
SW	1.3	3.0	19	8
WSW	1.5	3.4	27	8
W	1.4	3.2	7	27
WNW	1.5	2.9	18	27
NW	1.4	2.7	6	8
NNW	1.6	2.9	19	14
N	.6	2.2	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	2.3	0	0
NE	.7	2.0	1	0
ENE	.6	1.8	0	0
E	.5	1.8	0	0
ESE	.7	2.2	0	0
SE	.9	2.1	0	0
SSE	.7	2.1	0	0
S	.4	2.1	0	0
SSW	.7	2.6	0	0
SW	.8	2.7	3	1
WSW	1.6	3.5	52	22
W	1.1	2.5	0	5
WNW	1.3	2.7	19	30
NW	1.4	3.0	23	41
NNW	.8	2.0	1	0
N	.5	1.4	0	0

LOCATION 60

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	3.0	0	0
NE	.7	1.6	0	0
ENE	.5	1.9	0	0
E	.7	2.0	0	0
ESE	.8	2.0	0	0
SE	.9	2.0	0	0
SSE	.7	1.9	0	0
S	.5	2.2	0	0
SSW	.7	2.3	0	0
SW	.8	2.6	1	0
WSW	1.9	3.8	57	24
W	1.4	3.1	3	16
WNW	1.5	3.2	23	36
NW	1.5	3.1	16	24
NNW	.8	2.2	1	0
N	.5	1.7	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 61

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.7	0	0
NE	.9	2.1	1	0
ENE	.9	2.0	0	1
E	1.4	2.6	0	1
ESE	1.6	2.8	5	2
SE	1.4	2.6	0	0
SSE	1.0	2.5	0	0
S	.8	2.3	0	0
SSW	.9	2.7	0	0
SW	1.0	2.9	18	8
WSW	1.4	3.1	29	9
W	1.4	2.9	4	20
WNW	1.4	2.8	24	42
NW	1.3	2.5	6	8
NNW	1.3	2.5	13	8
N	.6	2.3	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-334

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.7	0	0
NE	1.5	3.4	12	7
ENE	1.4	3.2	1	10
E	1.5	2.9	0	3
ESE	1.7	2.8	14	7
SE	1.5	2.8	0	0
SSE	1.2	2.7	0	0
S	1.5	3.0	2	3
SSW	1.3	3.1	0	1
SW	1.2	2.7	4	2
WSW	1.6	3.9	24	7
W	1.4	3.6	4	20
WNW	1.3	2.7	13	18
NW	1.2	2.8	3	4
NNW	1.5	2.9	22	19
N	.8	2.1	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.0	0	0
NE	.8	1.9	0	0
ENE	.9	2.0	0	0
E	.7	2.3	0	0
ESE	.5	1.9	0	0
SE	.7	1.8	0	0
SSE	.9	2.2	0	0
S	.6	1.8	0	0
SSW	.6	1.9	0	0
SW	.4	1.7	0	0
WSW	.5	1.6	0	0
W	1.5	2.5	10	14
WNW	1.6	2.7	53	59
NW	1.5	2.5	35	27
NNW	1.0	2.1	2	0
N	.9	2.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.5	0	0
NE	.9	2.3	0	0
ENE	1.3	3.2	0	5
E	1.6	2.8	0	3
ESE	1.8	2.8	14	7
SE	1.4	2.6	0	0
SSE	1.2	2.6	0	0
S	1.6	2.9	2	3
SSW	1.4	3.3	0	0
SW	1.3	2.7	8	3
WSW	1.6	3.8	22	6
W	1.6	3.7	5	23
WNW	1.4	2.9	14	18
NW	1.3	2.7	4	5
NNW	1.7	3.0	29	26
N	1.0	2.3	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.8	0	0
NE	.7	2.1	0	0
ENE	1.0	2.4	0	1
E	1.0	2.3	0	0
ESE	1.4	2.6	3	0
SE	.5	1.9	0	0
SSE	.6	1.8	0	0
S	.6	2.2	0	0
SSW	.7	2.0	0	0
SW	.3	1.7	0	0
WSW	1.0	1.9	1	0
W	1.5	2.5	11	18
WNW	1.5	2.8	39	41
NW	1.6	2.6	42	41
NNW	1.1	2.2	4	0
N	.9	2.1	0	0

LOCATION 72

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.8	0	0
NE	1.8	3.9	47	39
ENE	1.0	2.6	1	9
E	.5	2.0	0	0
ESE	.6	1.9	0	0
SE	.5	2.1	0	0
SSE	.9	2.4	0	0
S	.7	2.2	0	0
SSW	1.3	2.5	9	7
SW	.7	1.8	1	0
WSW	1.0	2.1	8	2
W	.8	1.8	0	1
WNW	.8	1.6	5	6
NW	.8	2.0	0	1
NNW	1.1	2.4	21	23
N	1.0	2.2	0	5

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 72

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.7	0	0
NE	.5	1.5	1	0
ENE	.6	1.8	0	4
E	.9	2.0	1	15
ESE	1.1	2.4	63	52
SE	.7	1.9	0	0
SSE	.7	1.6	0	0
S	.4	1.8	0	0
SSW	.4	1.9	0	0
SW	.5	1.7	1	1
WSW	.8	2.1	24	12
W	.5	1.6	0	0
WNW	.2	1.8	0	0
NW	.7	1.8	5	14
NNW	.6	1.7	3	1
N	.5	1.3	0	0

TABLE E-335

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.7	0	0
NE	1.5	3.4	12	6
ENE	1.4	3.2	2	11
E	1.5	2.9	0	1
ESE	1.7	2.8	2	1
SE	1.5	2.8	0	0
SSE	1.2	2.7	0	0
S	1.5	3.0	1	1
SSW	1.3	3.1	0	1
SW	1.2	2.7	5	2
WSW	1.6	3.9	37	13
W	1.4	3.6	17	48
WNW	1.3	2.7	8	8
NW	1.2	2.8	2	2
NNW	1.5	2.9	13	7
N	.8	2.1	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.0	0	0
NE	.8	1.9	1	0
ENE	.9	2.0	0	1
E	.7	2.3	0	0
ESE	.5	1.9	0	0
SE	.7	1.8	0	0
SSE	.9	2.2	0	0
S	.6	1.8	0	0
SSW	.6	1.9	0	0
SW	.4	1.7	0	0
WSW	.5	1.6	0	0
W	1.5	2.5	11	16
WNW	1.6	2.7	50	57
NW	1.5	2.5	33	26
NNW	1.0	2.1	5	0
N	.9	2.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 62

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.0	2.5	0	0
NE	.9	2.3	1	0
ENE	1.3	3.2	1	7
E	1.6	2.8	0	1
ESE	1.8	2.8	3	1
SE	1.4	2.6	0	0
SSE	1.2	2.6	0	0
S	1.6	2.9	1	1
SSW	1.4	3.3	0	1
SW	1.3	2.7	6	2
WSW	1.6	3.8	38	12
W	1.6	3.7	20	50
WNW	1.4	2.9	12	13
NW	1.3	2.7	2	2
NNW	1.7	3.0	16	10
N	1.0	2.3	0	0

LOCATION 63

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	1.8	0	0
NE	.7	2.1	1	0
ENE	1.0	2.4	0	3
E	1.0	2.3	0	0
ESE	1.4	2.6	6	1
SE	.5	1.9	0	0
SSE	.6	1.8	0	0
S	.6	2.2	0	0
SSW	.7	2.0	0	0
SW	.3	1.7	0	0
WSW	1.0	1.9	1	0
W	1.5	2.5	8	14
WNW	1.5	2.8	43	50
NW	1.6	2.6	33	30
NNW	1.1	2.2	8	1
N	.9	2.1	0	0

LOCATION 72

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.8	0	0
NE	1.8	3.9	52	42
ENE	1.0	2.6	4	16
E	.5	2.0	0	0
ESE	.6	1.9	0	0
SE	.5	2.1	0	0
SSE	.9	2.4	0	0
S	.7	2.2	0	1
SSW	1.3	2.5	5	5
SW	.7	1.8	1	1
WSW	1.0	2.1	7	2
W	.8	1.8	0	0
WNW	.8	1.6	2	1
NW	.8	2.0	0	1
NNW	1.1	2.4	24	25
N	1.0	2.2	0	6

2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 72

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.7	0	0
NE	.5	1.5	1	0
ENE	.6	1.8	0	4
E	.9	2.0	0	6
ESE	1.1	2.4	37	34
SE	.7	1.9	0	0
SSE	.7	1.6	0	0
S	.4	1.8	0	0
SSW	.4	1.9	0	2
SW	.5	1.7	12	9
WSW	.8	2.1	46	32
W	.5	1.6	0	9
WNW	.2	1.8	0	0
NW	.7	1.8	0	0
NNW	.6	1.7	2	0
N	.5	1.3	0	2

TABLE E-336

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 73

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.6	0	1
NE	1.0	2.9	4	1
ENE	1.5	3.1	12	25
E	1.4	2.9	0	7
ESE	1.2	2.7	4	2
SE	1.0	2.6	0	0
SSE	1.1	2.5	0	0
S	1.0	2.4	0	1
SSW	1.5	2.9	14	7
SW	.8	2.2	0	0
WSW	1.4	2.6	35	13
W	1.1	2.4	1	11
WNW	1.0	2.6	5	5
NW	1.1	2.5	5	8
NNW	1.2	2.7	17	13
N	1.1	2.8	0	3

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.7	0	0
NE	.8	2.7	0	0
ENE	.9	3.0	0	1
E	1.8	3.3	1	14
ESE	2.3	3.7	74	65
SE	1.7	3.0	0	1
SSE	1.4	2.6	0	0
S	1.4	2.9	2	5
SSW	1.3	3.0	0	1
SW	.8	2.0	0	0
WSW	1.5	2.6	16	7
W	.8	2.1	0	0
WNW	1.0	2.0	2	2
NW	1.0	2.0	0	1
NNW	1.1	2.4	4	2
N	1.0	2.3	0	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.6	0	0
NE	.9	2.0	6	4
ENE	1.1	2.4	3	16
E	1.2	2.4	0	9
ESE	1.7	3.0	88	70
SE	1.3	2.7	1	1
SSE	.9	2.2	0	0
S	.8	2.0	0	0
SSW	.7	2.5	0	0
SW	.7	2.0	0	0
WSW	.7	2.0	0	0
W	.8	1.8	0	1
WNW	.5	1.7	0	0
NW	.2	1.9	0	0
NNW	.6	1.7	1	0
N	.5	1.7	0	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.7	0	0
NE	1.2	2.8	14	9
ENE	1.0	2.4	1	10
E	1.2	2.8	0	7
ESE	1.4	2.7	33	22
SE	1.3	2.4	0	1
SSE	1.2	2.5	1	1
S	1.0	2.2	1	1
SSW	1.4	2.6	15	8
SW	.3	1.8	0	0
WSW	.6	1.9	0	0
W	.5	1.7	0	0
WNW	.7	2.0	1	1
NW	1.0	2.1	7	14
NNW	1.1	2.1	22	22
N	.9	2.1	0	2

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.4	0	0
NE	.1	1.5	0	0
ENE	.4	1.7	0	3
E	.5	1.6	0	3
ESE	.5	1.5	0	2
SE	.1	1.3	0	0
SSE	.5	1.6	0	1
S	.2	1.7	0	0
SSW	.6	1.9	0	8
SW	.1	1.6	0	0
WSW	.7	1.7	31	63
W	.1	1.5	0	0
WNW	.1	1.4	0	0
NW	.1	1.4	0	0
NNW	.1	1.4	0	0
N	.3	1.5	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.0	0	0
NE	.7	2.3	1	0
ENE	.9	2.1	0	3
E	.9	2.6	0	0
ESE	1.8	3.6	82	58
SE	1.5	3.3	3	2
SSE	1.0	2.8	0	0
S	1.0	2.5	0	1
SSW	1.1	2.4	0	1
SW	.3	1.8	0	0
WSW	.7	1.9	0	0
W	.9	1.9	0	4
WNW	.7	1.6	0	0
NW	.7	1.4	0	0
NNW	.8	1.8	2	0
N	1.5	2.8	9	29

LOCATION 76

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.0	0	0
NE	1.3	2.7	12	8
ENE	2.4	3.8	62	57
E	1.8	3.4	10	26
ESE	1.5	3.1	13	8
SE	.9	2.4	0	0
SSE	.6	1.9	0	0
S	.7	1.9	0	0
SSW	1.0	2.3	0	0
SW	.1	1.9	0	0
WSW	.9	2.2	0	0
W	.6	1.9	0	0
WNW	.5	1.8	0	0
NW	.6	1.6	0	0
NNW	.8	1.8	1	0
N	.9	2.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-337

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

LOCATION 73

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.6	0	1
NE	1.0	2.9	10	5
ENE	1.5	3.1	11	22
E	1.4	2.9	0	6
ESE	1.2	2.7	4	2
SE	1.0	2.6	0	0
SSE	1.1	2.5	0	0
S	1.0	2.4	1	1
SSW	1.5	2.9	9	5
SW	.8	2.2	1	0
WSW	1.4	2.6	25	7
W	1.1	2.4	1	8
WNW	1.0	2.6	12	14
NW	1.1	2.5	6	8
NNW	1.2	2.7	18	13
N	1.1	2.8	1	7

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.7	0	0
NE	.8	2.7	3	2
ENE	.9	3.0	0	7
E	1.8	3.3	3	18
ESE	2.3	3.7	65	51
SE	1.7	3.0	0	1
SSE	1.4	2.6	0	0
S	1.4	2.9	3	7
SSW	1.3	3.0	1	3
SW	.8	2.0	0	0
WSW	1.5	2.6	16	6
W	.8	2.1	0	0
WNW	1.0	2.0	1	1
NW	1.0	2.0	0	0
NNW	1.1	2.4	5	3
N	1.0	2.3	0	1

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.6	0	0
NE	.9	2.0	6	4
ENE	1.1	2.4	6	19
E	1.2	2.4	1	9
ESE	1.7	3.0	76	57
SE	1.3	2.7	2	2
SSE	.9	2.2	0	0
S	.8	2.0	0	1
SSW	.7	2.5	0	2
SW	.7	2.0	3	2
WSW	.7	2.0	3	0
W	.8	1.8	0	3
WNW	.5	1.7	1	0
NW	.2	1.9	0	0
NNW	.6	1.7	1	0
N	.5	1.7	0	0

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.7	0	0
NE	1.2	2.8	20	13
ENE	1.0	2.4	3	13
E	1.2	2.8	1	9
ESE	1.4	2.7	24	14
SE	1.3	2.4	0	1
SSE	1.2	2.5	1	1
S	1.0	2.2	1	2
SSW	1.4	2.6	9	6
SW	.3	1.8	0	0
WSW	.6	1.9	1	0
W	.5	1.7	0	0
WNW	.7	2.0	6	5
NW	1.0	2.1	11	16
NNW	1.1	2.1	20	16
N	.9	2.1	0	4

LOCATION 75

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.1	1.4	0	0
NE	.1	1.5	15	13
ENE	.4	1.7	0	9
E	.5	1.6	0	0
ESE	.5	1.5	2	2
SE	.1	1.3	0	0
SSE	.5	1.6	0	0
S	.2	1.7	0	1
SSW	.6	1.9	7	8
SW	.1	1.6	2	2
WSW	.7	1.7	55	42
W	.1	1.5	0	0
WNW	.1	1.4	1	0
NW	.1	1.4	0	0
NNW	.1	1.4	15	19
N	.3	1.5	0	2

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.8	2.0	0	0
NE	1.3	2.7	15	10
ENE	2.4	3.8	48	49
E	1.8	3.4	12	26
ESE	1.5	3.1	21	13
SE	.9	2.4	0	0
SSE	.6	1.9	0	0
S	.7	1.9	0	0
SSW	1.0	2.3	0	0
SW	.1	1.9	0	0
WSW	.9	2.2	2	0
W	.6	1.9	0	0
WNW	.5	1.8	0	0
NW	.6	1.6	0	0
NNW	.8	1.8	1	0
N	.9	2.1	0	0

LOCATION 0

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.0	.0	0	0
NE	.0	.0	0	0
ENE	.0	.0	0	0
E	.0	.0	0	0
ESE	.0	.0	0	0
SE	.0	.0	0	0
SSE	.0	.0	0	0
S	.0	.0	0	0
SSW	.0	.0	0	0
SW	.0	.0	0	0
WSW	.0	.0	0	0
W	.0	.0	0	0
WNW	.0	.0	0	0
NW	.0	.0	0	0
NNW	.0	.0	0	0
N	.0	.0	0	0

TABLE E-338

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.5	0	0
NE	.7	1.7	1	0
ENE	.1	2.0	0	0
E	.5	1.9	0	0
ESE	1.5	2.8	43	40
SE	1.6	3.0	7	5
SSE	1.5	3.1	3	4
S	1.4	3.0	21	37
SSW	1.4	3.0	27	15
SW	.6	1.6	0	0
WSW	.6	1.6	0	0
W	.5	1.5	0	0
WNW	.6	1.6	0	0
NW	.5	1.8	0	0
NNW	.3	1.6	0	0
N	.7	1.4	0	0

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.3	3.6	12	12
NE	2.1	3.5	22	14
ENE	1.7	3.4	2	10
E	.7	2.5	0	0
ESE	2.2	3.6	28	13
SE	2.1	3.6	1	1
SSE	1.8	3.4	1	0
S	1.2	2.7	0	0
SSW	1.4	2.8	0	0
SW	.5	1.4	0	0
WSW	.5	1.5	0	0
W	.1	1.4	0	0
WNW	.5	1.8	0	0
NW	.7	1.9	0	0
NNW	1.6	2.7	17	10
N	2.4	3.3	18	39

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.4	0	0
NE	1.8	3.0	18	10
ENE	2.0	3.4	18	26
E	1.7	2.9	0	4
ESE	1.2	2.3	0	0
SE	.6	1.6	0	0
SSE	.4	1.5	0	0
S	.6	1.8	0	0
SSW	.3	1.1	0	0
SW	.5	1.3	0	0
WSW	.3	1.3	0	0
W	.8	1.6	0	0
WNW	1.3	2.2	8	5
NW	1.6	2.6	29	37
NNW	1.6	2.5	26	18
N	.9	2.0	0	0

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.6	0	0
NE	.1	1.6	0	0
ENE	.1	2.1	0	0
E	.7	2.0	0	1
ESE	.9	2.4	21	11
SE	.9	2.0	2	1
SSE	1.1	2.7	5	4
S	.9	2.4	14	16
SSW	.6	1.4	0	0
SW	.6	1.8	15	7
WSW	.4	1.4	0	0
W	.1	1.2	0	0
WNW	.6	1.5	16	23
NW	.2	1.5	0	0
NNW	.7	1.6	19	14
N	.9	1.7	7	21

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.8	1	1
NE	.9	2.1	2	0
ENE	1.2	2.6	2	2
E	1.3	2.5	0	2
ESE	1.6	2.6	27	10
SE	.9	1.9	0	0
SSE	.3	1.5	0	0
S	.6	1.9	0	0
SSW	.9	1.7	0	0
SW	.1	1.6	0	0
WSW	.8	1.6	0	0
W	.6	1.7	0	0
WNW	.7	1.9	0	0
NW	.5	1.8	0	0
NNW	1.5	2.5	44	37
N	1.8	2.8	24	41

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.5	3.0	1	1
NE	2.0	3.2	30	20
ENE	2.2	3.4	26	33
E	1.9	2.9	3	12
ESE	1.6	2.4	5	2
SE	.8	1.7	0	0
SSE	.8	2.1	0	0
S	.6	1.9	0	0
SSW	.6	1.4	0	0
SW	.3	1.2	0	0
WSW	.5	1.4	0	0
W	.8	1.6	0	0
WNW	1.1	2.1	4	2
NW	1.4	2.5	15	20
NNW	1.4	2.5	16	9
N	.7	2.0	0	0

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.7	0	0
NE	.1	1.8	0	0
ENE	.1	1.9	0	0
E	.6	1.9	0	0
ESE	.9	2.2	27	8
SE	1.0	2.4	2	1
SSE	1.0	2.5	3	1
S	.6	1.8	0	0
SSW	.6	1.7	0	0
SW	.4	1.4	0	0
WSW	.4	1.3	0	0
W	.5	1.8	0	0
WNW	.8	1.8	41	52
NW	.5	1.4	0	0
NNW	.6	1.9	10	2
N	1.1	2.0	21	34

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.8	1	1
NE	.7	2.5	0	0
ENE	1.2	2.6	1	5
E	1.1	2.3	0	0
ESE	.5	1.6	0	0
SE	.4	1.7	0	0
SSE	.5	1.7	0	0
S	.2	1.7	0	0
SSW	.8	1.7	0	0
SW	.6	1.6	0	0
WSW	.7	1.7	0	0
W	.3	2.0	0	0
WNW	1.3	2.8	19	13
NW	1.0	2.2	1	0
NNW	1.7	2.8	50	38
N	2.0	3.1	29	43

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.8	0	0
NE	1.8	3.3	27	19
ENE	2.1	3.2	35	41
E	1.9	3.0	9	23
ESE	1.7	2.5	24	15
SE	.7	2.0	0	0
SSE	.7	1.9	0	0
S	.8	2.0	0	0
SSW	.9	1.9	0	0
SW	.4	1.8	0	0
WSW	.5	1.9	0	0
W	.7	1.6	0	0
WNW	.7	1.8	0	0
NW	.9	2.1	0	0
NNW	1.0	2.0	4	1
N	.7	2.1	0	0

TABLE E-339

MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION | 1995 INTERIM-BUILD POST-MITIGATION | 2000 FULL-BUILD POST-MITIGATION

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.7	1.5	0	0
NE	.7	1.7	0	0
ENE	.1	2.0	0	0
E	.5	1.9	0	0
ESE	1.5	2.8	33	32
SE	1.6	3.0	5	4
SSE	1.5	3.1	3	4
S	1.4	3.0	24	43
SSW	1.4	3.0	36	18
SW	.6	1.6	0	0
WSW	.6	1.6	0	0
W	.5	1.5	0	0
WNW	.6	1.6	0	0
NW	.5	1.8	0	0
NNW	.3	1.6	0	0
N	.7	1.4	0	0

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	2.3	3.6	10	10
NE	2.1	3.5	23	14
ENE	1.7	3.4	7	18
E	.7	2.5	0	0
ESE	2.2	3.6	29	15
SE	2.1	3.6	1	1
SSE	1.8	3.4	1	1
S	1.2	2.7	0	0
SSW	1.4	2.8	0	1
SW	.5	1.4	0	0
WSW	.5	1.5	0	0
W	.1	1.4	0	0
WNW	.5	1.8	0	0
NW	.7	1.9	0	0
NNW	1.6	2.7	16	13
N	2.4	3.3	10	27

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.4	1	1
NE	1.8	3.0	22	12
ENE	2.0	3.4	20	28
E	1.7	2.9	0	5
ESE	1.2	2.3	0	0
SE	.6	1.6	0	0
SSE	.4	1.5	0	0
S	.6	1.8	0	0
SSW	.3	1.1	0	0
SW	.5	1.3	0	0
WSW	.3	1.3	0	0
W	.8	1.6	0	0
WNW	1.3	2.2	7	4
NW	1.6	2.6	25	33
NNW	1.6	2.5	25	17
N	.9	2.0	0	0

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.6	0	0
NE	.1	1.6	10	4
ENE	.1	2.1	0	3
E	.7	2.0	0	2
ESE	.9	2.4	20	7
SE	.9	2.0	0	0
SSE	1.1	2.7	4	3
S	.9	2.4	20	17
SSW	.6	1.4	0	0
SW	.6	1.8	10	3
WSW	.4	1.4	0	0
W	.1	1.2	34	61
WNW	.6	1.5	0	0
NW	.2	1.5	0	0
NNW	.7	1.6	0	0
N	.9	1.7	0	2

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.2	2.8	5	4
NE	.9	2.1	5	2
ENE	1.2	2.6	8	17
E	1.3	2.5	0	5
ESE	1.6	2.6	20	7
SE	.9	1.9	0	0
SSE	.3	1.5	0	0
S	.6	1.9	0	0
SSW	.9	1.7	0	0
SW	.1	1.6	0	0
WSW	.8	1.6	0	0
W	.6	1.7	0	0
WNW	.7	1.9	2	0
NW	.5	1.8	0	0
NNW	1.5	2.5	41	33
N	1.8	2.8	16	31

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.5	3.0	5	5
NE	2.0	3.2	30	20
ENE	2.2	3.4	24	31
E	1.9	2.9	1	8
ESE	1.6	2.4	3	1
SE	.8	1.7	0	0
SSE	.8	2.1	0	0
S	.6	1.9	0	0
SSW	.6	1.4	0	0
SW	.3	1.2	0	0
WSW	.5	1.4	0	0
W	.8	1.6	0	0
WNW	1.1	2.1	3	1
NW	1.4	2.5	16	23
NNW	1.4	2.5	17	10
N	.7	2.0	0	0

LOCATION 79

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.7	0	0
NE	.1	1.8	2	0
ENE	.1	1.9	0	2
E	.6	1.9	0	3
ESE	.9	2.2	26	10
SE	1.0	2.4	3	1
SSE	1.0	2.5	3	2
S	.6	1.8	1	1
SSW	.6	1.7	0	0
SW	.4	1.4	1	0
WSW	.4	1.3	0	0
W	.5	1.8	0	1
WNW	.8	1.8	36	52
NW	.5	1.4	0	0
NNW	.6	1.9	20	11
N	1.1	2.0	7	17

LOCATION 80

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.3	2.8	3	2
NE	.7	2.5	3	0
ENE	1.2	2.6	2	8
E	1.1	2.3	0	0
ESE	.5	1.6	0	0
SE	.4	1.7	0	0
SSE	.5	1.7	0	0
S	.2	1.7	0	0
SSW	.8	1.7	0	0
SW	.6	1.8	0	0
WSW	.7	1.7	0	0
W	.3	2.0	0	0
WNW	1.3	2.8	36	39
NW	1.0	2.2	2	1
NNW	1.7	2.6	40	27
N	2.0	3.1	14	23

LOCATION 81

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	1.1	2.8	3	3
NE	1.8	3.3	33	24
ENE	2.1	3.2	30	37
E	1.9	3.0	6	18
ESE	1.7	2.5	14	7
SE	.7	2.0	0	0
SSE	.7	1.9	0	0
S	.8	2.0	0	0
SSW	.9	1.9	0	0
SW	.4	1.8	0	0
WSW	.5	1.9	0	0
W	.7	1.6	0	0
WNW	.7	1.8	1	0
NW	.9	2.1	3	4
NNW	1.0	2.0	9	5
N	.7	2.1	0	0

TABLE E-340

EFFECTIVE WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.3	2	2
NE	.5	1.8	0	0
ENE	.1	2.0	0	0
E	.7	2.1	0	0
ESE	1.2	2.8	38	19
SE	.9	2.7	0	0
SSE	.7	2.1	0	0
S	.7	1.5	0	0
SSW	.5	2.5	0	0
SW	.8	1.8	18	7
WSW	.7	1.6	1	0
W	.4	1.6	0	0
WNW	.8	1.8	20	28
NW	.6	1.5	0	0
NNW	.6	1.7	1	0
N	1.2	2.6	20	42

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.6	0	0
NE	1.7	3.5	50	42
ENE	.8	2.2	0	3
E	.1	1.6	0	0
ESE	.3	2.0	0	0
SE	.1	2.0	0	0
SSE	.9	2.3	0	0
S	.7	2.3	0	0
SSW	1.1	2.6	1	3
SW	.7	1.7	2	1
WSW	1.0	2.0	13	5
W	.6	1.7	0	0
WNW	.8	1.6	5	8
NW	.6	1.9	0	0
NNW	1.0	2.5	20	22
N	1.1	2.5	2	13

2000 FULL-BUILD POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.4	0	0
NE	.1	1.6	0	0
ENE	.5	1.7	0	1
E	1.1	2.0	9	27
ESE	1.2	2.2	63	53
SE	.7	1.5	0	0
SSE	.5	1.4	0	0
S	.1	1.5	0	0
SSW	.1	1.6	0	0
SW	.1	2.1	0	0
WSW	.8	2.3	24	12
W	.5	2.0	0	0
WNW	.3	1.6	0	0
NW	.6	1.8	0	1
NNW	.6	1.9	5	3
N	.7	1.6	0	2

TABLE E-341
MEAN WIND SPEED RATIOS

1993 NEW BOSTON GARDEN POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.9	2.3	3	4
NE	.5	1.8	3	1
ENE	.1	2.0	0	1
E	.7	2.1	0	2
ESE	1.2	2.8	61	39
SE	.9	2.7	2	2
SSE	.7	2.1	0	0
S	.7	1.5	0	0
SSW	.5	2.5	1	2
SW	.8	1.8	1	0
WSW	.7	1.6	2	0
W	.4	1.6	0	0
WNW	.8	1.8	8	10
NW	.6	1.5	0	0
NNW	.6	1.7	3	1
N	1.2	2.6	13	36

1995 INTERIM-BUILD POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.6	1.6	0	0
NE	1.7	3.5	47	38
ENE	.8	2.2	1	8
E	.1	1.6	0	0
ESE	.3	2.0	0	0
SE	.1	2.0	0	0
SSE	.9	2.3	0	0
S	.7	2.3	0	0
SSW	1.1	2.6	4	4
SW	.7	1.7	1	1
WSW	1.0	2.0	11	3
W	.6	1.7	0	1
WNW	.8	1.6	4	4
NW	.6	1.9	0	0
NNW	1.0	2.5	26	27
N	1.1	2.5	2	12

2000 FULL-BUILD POST-MITIGATION

LOCATION 82

WIND ANGLE	RATIOS MEAN	RATIOS GUST	WEIGHT SUM	WEIGHT WINT
NNE	.5	1.4	0	0
NE	.1	1.6	13	10
ENE	.5	1.7	0	3
E	1.1	2.0	0	11
ESE	1.2	2.2	29	26
SE	.7	1.5	0	0
SSE	.5	1.4	0	0
S	.1	1.5	0	0
SSW	.1	1.6	0	1
SW	.1	2.1	0	0
WSW	.8	2.3	50	34
W	.5	2.0	0	6
WNW	.3	1.6	0	0
NW	.6	1.8	0	0
NNW	.6	1.9	7	5
N	.7	1.6	0	4

TABLE E-342
EFFECTIVE WIND SPEED RATIOS

APPENDIX: WATER QUALITY

A. SURFACE WATER QUALITY STANDARDS

A. COMMONWEALTH OF MASSACHUSETTS SURFACE WATER QUALITY STANDARDS*

Applicable Classes for Inland Waters

Class B

Waters assigned to this class are designated for the protection and propagation of fish, other aquatic life, and wildlife; and for primary and secondary contact recreation. These waters shall have consistently good aesthetic value.

Class C

Waters assigned to this class are designated for the uses of protection and propagation of fish, other aquatic life, and wildlife and for secondary contact recreation. These waters shall have good aesthetic value.

Applicable Classes for Coastal and Marine Waters

Class SB

Waters assigned to this class are designated for the protection and propagation of fish, other aquatic life, and wildlife; for primary and secondary contact recreation; and for shellfish harvesting with depuration (Restricted Shellfish Areas). These waters shall have consistently good aesthetic value.

Class SC

Waters assigned to this class are designated for the protection and propagation of fish, other aquatic life, and wildlife; and for secondary contact recreation. These waters shall have good aesthetic value.

* Source: 314 CMR 4.05.

Parameter	Criteria
Minimum Criteria:	The following minimum criteria are adopted and shall be applicable to all surface waters.
A. These minimum criteria are applicable to all waters of the Commonwealth, unless criteria specified for individual classes are more stringent.	
1. Aesthetics	All waters shall be free from pollutants in concentrations or combinations that: (a) Settle to form objectionable deposits. (b) Float as debris, scum, or other matter to form nuisances. (c) Produce objectionable odor, color, taste, or turbidity. (d) Result in the dominance of nuisance species.
2. Radioactive Substances	Shall not exceed the recommended limits of the United States Environmental Protection Agency's National Drinking Water Regulations.
3. Tainting Substances	Shall not be in concentrations or combinations that produce undesirable flavors in the edible portions of aquatic organisms.
4. Color, Turbidity, Total Suspended Solids	Shall not be in concentrations or combinations that would exceed the recommended limits on the most sensitive receiving water use, that would cause aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom.
5. Oil and Grease	The water surface shall be free from floating oils, grease, and petrochemicals; any concentrations or combinations in the water column or sediments that are aesthetically objectionable or deleterious to the biota are prohibited. For oil and grease of petroleum origin the maximum allowable discharge concentration is 15 mg/*l*.
6. Nutrients	Shall not exceed the site-specific limits necessary to control accelerated or cultural eutrophication.

Source: 314 CMR 4.05.

Parameter	Criteria
7. Other	Waters shall be free from pollutants in concentrations that: (a) Exceed the recommended limits on the most sensitive receiving water use. (b) Injure, are toxic to, or produce adverse physiological or behavioral responses in humans or aquatic life. (c) Exceed site-specific safe exposure levels determined by bioassay using sensitive species.

B. Inland Waters: The following additional minimum criteria are applicable to inland water classifications.

For Class B Waters:

1. Dissolved Oxygen	Shall be a minimum of 5.0 mg/*l* in warm water fisheries and a minimum of 6.0 mg/*l* in cold water fisheries. Natural seasonal and daily variations above these levels shall be maintained; levels shall not be lowered below 75 percent of saturation in cold water fisheries nor 60 percent of saturation in warm water fisheries due to a discharge; and site-specific criteria may apply where background levels are lower than specified levels, to the hypolimnion of stratified lakes, or where the Director determines that designated uses are not impaired.
2. Temperature	Shall not exceed 68 F (20 C) in cold water fisheries nor 83 F (28.3 C) in warm water fisheries, nor shall the rise resulting from artificial origin exceed 3.0 F (1.7 C) in rivers and streams designated as cold water fisheries nor 5 F (2.8 C) in rivers and streams designated as warm water fisheries (based on the minimum expected flow for the month); in lakes and ponds the rise shall not exceed 3 F (1.7 C) in the epilimnion based on the monthly average of the maximum daily temperature; and natural and seasonal variations shall be maintained. There shall be no changes from background conditions that would impair any use assigned to this class, including site-specific limits necessary to protect normal species diversity, successful migration, reproductive functions or growth of aquatic organisms.

Source: 314 CMR 4.05.

Parameter	Criteria
3. pH	Shall be in the range of 6.5 to 8.3 standard units and not more than 0.5 unit outside of the naturally occurring range. There shall be no change from background conditions which would impair any use assigned to this Class.
4. Fecal Coliform Bacteria	Shall not exceed a geometric mean for a set of samples of 200 per 100 ml, nor shall more than 10 percent of the total samples exceed 400 per 100 ml. This criterion may be applied on a seasonal basis at the discretion of the Director.
Class C Waters:	
1. Dissolved Oxygen	Shall be a minimum of 5.0 mg/*l* at least 16 hours of any 24 hour period and not less than 3.0 mg/*l* at any time unless background conditions are lower; natural seasonal and daily variations above these levels shall be maintained; levels shall not be lowered below 50 percent of saturation due to a discharge; and site-specific criteria may apply where background levels are lower than specified levels, or to the hypolimnion of stratified lakes where the Director determines that designated uses are not impaired.
2. Temperature	Shall not exceed 85 F (29.4 C), nor shall the rise resulting from artificial origin exceed 5.0 F (2.8 C); and natural and seasonal variations shall be maintained. There shall be no changes from background conditions that would impair any use assigned to this class, including site-specific limits necessary to protect normal species diversity, successful migration, reproductive functions or growth of aquatic organisms.
3. pH	Shall be in the range of 6.5 to 9.0 standard units and not more than 1.0 units outside the naturally occurring range.
4. Fecal Coliform Bacteria	Shall not exceed a geometric mean for a set of samples of 1,000 MPN per 100 ml, nor shall more than 10 percent of the total samples exceed 2,000 MPN per 100 ml.

Source: 314 CMR 4.05.

Parameter	Criteria
C. Coastal and Marine Waters: the following additional minimum criteria are applicable to coastal and marine waters.	
For Class SB Waters:	
1. Dissolved Oxygen	Shall not be less than 5.0 mg/*l* unless background conditions are lower; natural seasonal and daily variations above this level shall be maintained; levels shall not be lowered below 60 percent of saturation due to a discharge; and site-specific criteria may apply where background conditions are lower than specified levels or to the bottom stratified layer where the Director determines that designated uses are not impaired.
2. Temperature	Shall not exceed 85 F (29.4 C) nor a maximum daily mean of 80 F (26.7 C), and the rise in temperature due to a discharge shall not exceed 1.5 F (0.8 C) during the summer months (July through September) nor 4 F (2.2 C) during the winter months (October through June); natural and daily variations shall be maintained; there shall be no changes from background that would impair any uses assigned to this class including site-specific limits necessary to protect normal species diversity, successful migration, reproductive functions, or growth of aquatic organisms; and any determinations concerning thermal discharge limits in accordance with Section 316(a) of the Federal Act will be considered site-specific limitations in compliance with these regulations.
3. pH	Shall be in the range of 6.5 to 8.5 and not more than 0.2 units outside of the naturally occurring range.
4. Fecal Coliform Bacteria	Waters approved for restricted shellfishing shall not exceed a median or geometric mean of 88 MPN per 100 ml and not more than 10 percent of the samples shall exceed 260 MPN per 100 ml (more stringent regulations may apply, see 314 CMR 4.06 (1)(d)(4); and waters not designated for shellfishing shall not exceed a geometric mean of 200 organisms in any representative set of samples, nor shall more than 10 percent of the samples exceed 400 organisms per 100 ml. This criterion may be applied on a seasonal basis at the discretion of the Director.

Source: 314 CMR 4.05.

Parameter	Criteria
For Class SC Waters:	
1. Dissolved Oxygen	Shall be a minimum of 5.0 mg/*l* at least 16 hours of any 24 hour period and not less than 4.0 mg/*l* at any time unless background conditions are lower; natural seasonal and daily variations above these levels shall be maintained; levels shall not be lowered below 50 percent of saturation due to a discharge; and site-specific criteria may apply where background levels are lower than specified levels, or to the hypolimnion of stratified lakes where the Director determines that designated uses are not impaired.
2. Temperature	Shall not exceed 85 F (29.4 C), nor shall the rise resulting from artificial origin exceed 5.0 F (2.8 C); and natural and seasonal variations shall be maintained. There shall be no changes from background conditions that would impair any use assigned to this class, including site-specific limits necessary to protect normal species diversity, successful migration, reproductive functions or growth of aquatic organisms. Any determinations concerning thermal discharge limitations in accordance with Section 316(a) of the Federal Act will be considered site-specific limitations in compliance with these regulations.
3. pH	Shall be in the range of 6.5 to 9.0 standard units and not more than 0.5 units outside the naturally occurring range.
4. Fecal Coliform Bacteria	Shall not exceed a geometric mean for a set of samples of 1,000 MPN per 100 ml, nor shall more than 10 percent of the total samples exceed 2,000 MPN per 100 ml.

Source: 314 CMR 4.05.